APPENDIX A

INDIVIDUALIZED NETWORK INFORMATION SERVER

U.S. Appl. by:

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qnet Project Report

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package tcs.ain.infoserver.dest
package tcs.ain.infoserver.pqa
package tcs.ain.infoserver.servlet
package tcs.ain.infoserver.simpleweb
package tcs.ain.infoserver.simpleweb2*zip
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class tcs.ain.infoserver.tests.Test10
class tcs.ain.infoserver.tests.Test5
class tcs.ain.infoserver.tests.Test6
class tcs.ain.infoserver.tests.Test7
class tcs.ain.infoserver.tests.Test8

class tcs.ain.infoserver.tests.Test9
class tcs.ain.infoserver.tests.TestPageParserQE
class tcs.ain.infoserver.tests.WLabDS
class tcs.ain.infoserver.simpleweb.CustomWebSourceFormGenerator
class tcs.ain.infoserver.simpleweb.JspBean
class tcs.ain.infoserver.simpleweb.PublicAgentListGenerator
class tcs.ain.infoserver.simpleweb.UserWorkFormGenerator
class tcs.ain.infoserver.simpleweb.UserWorkFormProcessor

Interfaces

interface tcs.ain.infoserver.IDataEventListener
interface tcs.ain.infoserver.IDataEventSource
interface tcs.ain.infoserver.IDataSource
interface tcs.ain.infoserver.access.IRemoteRepository
interface tcs.ain.infoserver.pqa.PQAConst
interface tcs.ain.infoserver.servlet.ISElementCreator

Class Diagrams

Class Diagram *access*



Class Nodes

tcs.ain.infoserver.access.InfoServerAccess
tcs.ain.infoserver.access.InfoServerAccess_Skel
tcs.ain.infoserver.access.InfoServerAccess_Stub

Interface Nodes

tcs.ain.infoserver.access.IRemoteRepository

Class Node Detail

Class *tcs.ain.infoserver.access.InfoServerAccess*

This class provides access to user agents within the Info Server. May be replaced by a Jini Service in the near future. This provides access to the assigned Repository

Extends:
UnicastRemoteObject

Implements:
IRemoteRepository

Implementation links

to **Interface** IRemoteRepository

Class *tcs.ain.infoserver.access.InfoServerAccess_Skel*

Extends:
java.lang.Object

Implements:
java.rmi.server.Skeleton

Class *tcs.ain.infoserver.access.InfoServerAccess_Stub*

Extends:
java.rmi.server.RemoteStub

Implements:
tcs.ain.infoserver.access.IRemoteRepository
java.rmi.Remote

Implementation links

to **Interface** IRemoteRepository

Interface Node Detail

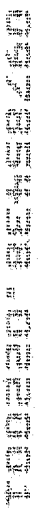
Interface *tcs.ain.infoserver.access.IRemoteRepository*

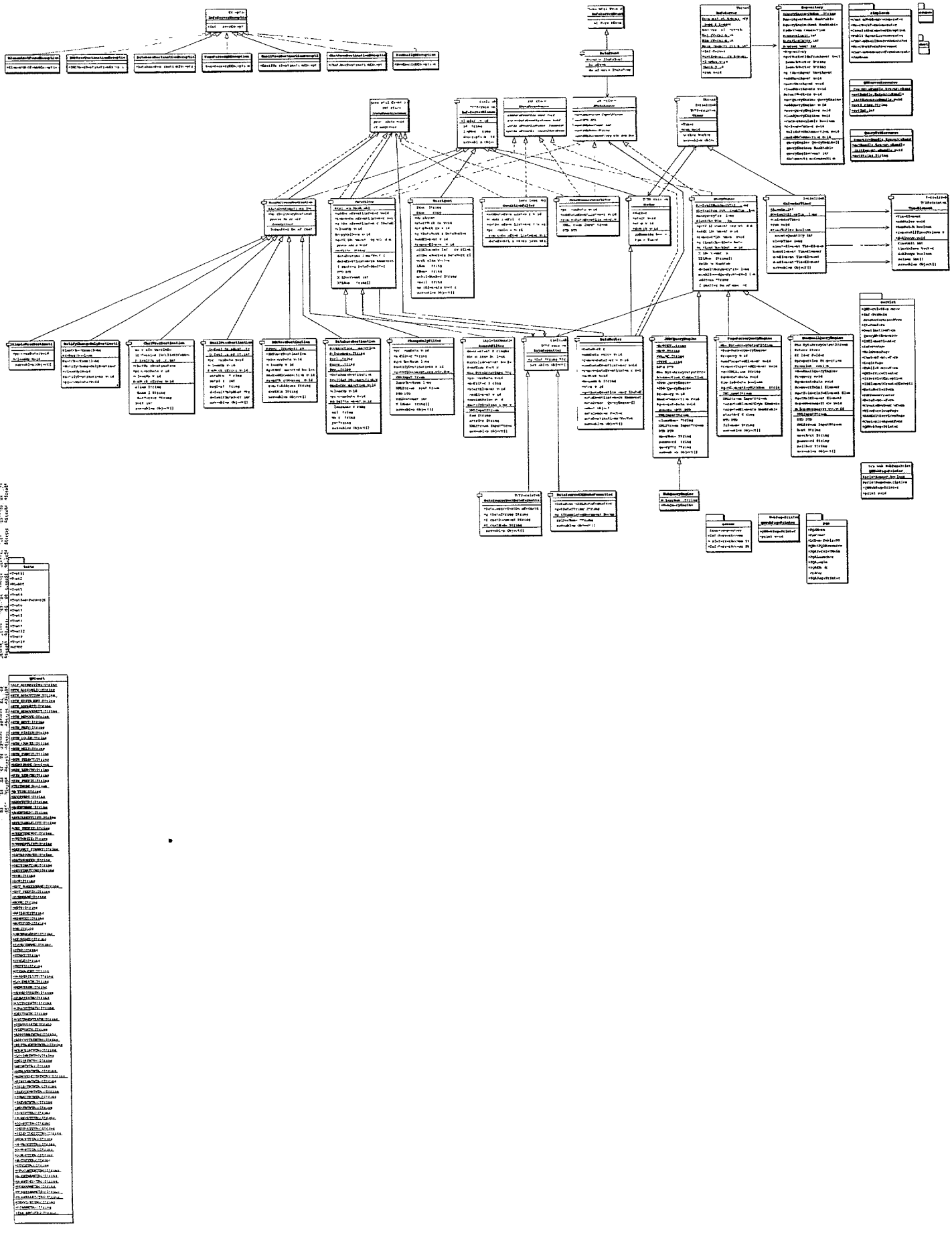
This interface provides access to user agents within the Info Server. May be replaced by a Jini Service in the near future.

Extends:
java.rmi.Remote

Class Diagram *dest*

Class Diagram *infoserver*





Package Nodes

tcs.ain.infoserver.access
tcs.ain.infoserver.dest
tcs.ain.infoserver.pqa
tcs.ain.infoserver.servlet
tcs.ain.infoserver.simpleweb
tcs.ain.infoserver.source
tcs.ain.infoserver.tests

Class Nodes

tcs.ain.infoserver.CalendarTimer
tcs.ain.infoserver.ChangeOnlyFilter
tcs.ain.infoserver.ChatUserDestination
tcs.ain.infoserver.ChatUserDestinationException
tcs.ain.infoserver.ConditionFilter
tcs.ain.infoserver.DatabaseDestination
tcs.ain.infoserver.DatabaseDestinationException
tcs.ain.infoserver.DataEvent
tcs.ain.infoserver.DataFilter
tcs.ain.infoserver.DataFormatter
tcs.ain.infoserver.DataSourceTextDataFormatter
tcs.ain.infoserver.DataSourceXSLDataFormatter
tcs.ain.infoserver.DataTranslationFilter
tcs.ain.infoserver.DataWorker
tcs.ain.infoserver.ElementNotFoundException
tcs.ain.infoserver.EmailUserDestination
tcs.ain.infoserver.EmailUserDestinationException
tcs.ain.infoserver.InfoServer
tcs.ain.infoserver.InfoServerElement
tcs.ain.infoserver.InfoServerEvent
tcs.ain.infoserver.InfoServerException
tcs.ain.infoserver.JDBCQueryEngine
tcs.ain.infoserver.NewEmailQEException
tcs.ain.infoserver.NewEmailQueryEngine
tcs.ain.infoserver.NotifyChangeOnlyDestination
tcs.ain.infoserver.PageParserQEException
tcs.ain.infoserver.PageParserQueryEngine
tcs.ain.infoserver.QNConst
tcs.ain.infoserver.QNServerResource
tcs.ain.infoserver.QNWebPagePrinter
tcs.ain.infoserver.QueryEngine
tcs.ain.infoserver.QueryNetResource
tcs.ain.infoserver.Repository
tcs.ain.infoserver.SearchFilter
tcs.ain.infoserver.servlet.QNWebPagePrinter
tcs.ain.infoserver.SimpleUserDestination
tcs.ain.infoserver.SMSUserDestination
tcs.ain.infoserver.SMSUserDestinationException
tcs.ain.infoserver.TimeElement
tcs.ain.infoserver.Timer
tcs.ain.infoserver.UserAgent
tcs.ain.infoserver.UserDeliveryDestination
tcs.ain.infoserver.WebQueryEngine
tcs.ain.infoserver.Worker

Interface Nodes

tcs.ain.infoserver.IDataEventListener
tcs.ain.infoserver.IDataEventSource
tcs.ain.infoserver.IDataSource

Package Node Detail

Package *tcs.ain.infoserver.access*

Package *tcs.ain.infoserver.dest*

Package *tcs.ain.infoserver.pqa*

Package *tcs.ain.infoserver.servlet*

Package *tcs.ain.infoserver.simpleweb*

Package *tcs.ain.infoserver.source*

Package *tcs.ain.infoserver.tests*

Class Node Detail

Class *tcs.ain.infoserver.CalendarTimer*

This Timer will tell the worker to doWork whenever the assigned time criteria have been met. Similar to a cron job, it receives minutes, hours, days of week, and days of month values that define when the work should be performed. Currently this just checks its TimeElements every 60 secs to see if it should fire. Perhaps later we can sleep the maximum amount possible given the assigned values.

Extends:
Timer

Implements:
Serializable

Generalization links

to **Class** Timer

Association links

to **Class** TimeElement

to **Class** TimeElement

to **Class** TimeElement

to **Class** TimeElement

Class *tcs.ain.infoserver.ChangeOnlyFilter*

Just send the output to STDOUT.

Extends:
DataFilter

Generalization links

to **Class** DataFilter

Class *tcs.ain.infoserver.ChatUserDestination*

Send the output to a user's email account. SMTP-relevant info must first be defined for the class.

Extends:
UserDeliveryDestination

Generalization links

to **Class** UserDeliveryDestination

Class *tcs.ain.infoserver.ChatUserDestinationException*

Extends:
InfoServerException

Generalization links

to **Class** InfoServerException

Class *tcs.ain.infoserver.ConditionFilter*

Extends:
java.lang.Object

Implements:
tcs.ain.infoserver.IDataEventListener
tcs.ain.infoserver.IDataEventSource

Implementation links

to **Interface** IDataEventListener

to **Interface** IDataEventSource

Class *tcs.ain.infoserver.DatabaseDestination*

This performs SQL statements that must be embedded within the received XML data. This assumes that an XSLTemplate assigned to its (DataFormatter)DataSourceXSLDataFormatter will provide XML data in the following format:
<STATEMENTS><SQL>xxxxx</SQL></STATEMENT> It will then execute each statement against the schema assigned to it.

Extends:
UserDeliveryDestination

Generalization links

to **Class** UserDeliveryDestination

Class *tcs.ain.infoserver.DatabaseDestinationException*

Extends:
InfoServerException

Generalization links

to **Class** InfoServerException

Class *tcs.ain.infoserver.DataEvent*

Event fired to a DataDestination whenever new data is available This provides a reference to the Data Source containing the new data. It

is up to the receiver to get the data if it wants it.

Extends:
InfoServerEvent

Generalization links

to **Class** InfoServerEvent

Association links

to **Interface** IDataSource

Documentation:
This is the object containing the new/updated data

Class *tcs.ain.infoserver.DataFilter*

Just send the output to STDOUT.

Extends:
InfoServerElement

Implements:
IDataEventListener
IDataEventSource
IDataSource

Generalization links

to **Class** InfoServerElement

Implementation links

to **Interface** IDataEventListener

to **Interface** IDataEventSource

to **Interface** IDataSource

Association links

to **Interface** IDataEventListener

associates:
IDataEventListener

to **Class** DataFormatter

Documentation:
Default Data Formatter

Class *tcs.ain.infoserver.DataFormatter*

Default implementation just returns the XML data retrieved directly from the data set.

Implements:
Serializable
TCSPersistent

Class *tcs.ain.infoserver.DataSourceTextDataFormatter*

This class returns a format using an XSL Document provided by the data source. The data source can offer multiple styles, each of which is queried by name. This is assigned the name to be used for retrieving the XSL doc from the data source.

Extends:
DataFormatter

Implements:
TCSPersistent

Generalization links

to **Class** DataFormatter

Class *tcs.ain.infoserver.DataSourceXSLDataFormatter*

This class returns a format using an XSL Document provided by the data source. The data source can offer multiple styles, each of which is queried by name. This is assigned the name to be used for retrieving the XSL doc from the data source.

Extends:
DataFormatter

Generalization links

to **Class** DataFormatter

Class *tcs.ain.infoserver.DataTranslationFilter*

This class receives DataEvents, queries the original datasource and assembles its Own Data. It then generates a new DataEvent to its listeners telling them to query it's own data.

Implements:
IDataEventListener
IDataEventSource
IDataSource

Implementation links

to **Interface** IDataEventListener

to **Interface** IDataEventSource

to **Interface** IDataSource

Class *tcs.ain.infoserver.DataWorker*

A DataWorker tells a DataDestination that it ought to query a Datasource.

Extends:
Worker

Implements:
IDataEventSource

Generalization links

to **Class** Worker

Implementation links

to **Interface** IDataEventSource

Association links

to **Interface** IDataSource

associates:
IDataSource

to **Interface** IDataEventListener

associates:
IDataEventListener

Class *tcs.ain.infoserver.ElementNotFoundException*

Extends:
InfoServerException

Generalization links

to **Class** InfoServerException

Class *tcs.ain.infoserver.EmailUserDestination*

Send the output to a user's email account. SMTP-relevant info must first be defined for the class.

Extends:
UserDeliveryDestination

Generalization links

to **Class** UserDeliveryDestination

Class *tcs.ain.infoserver.EmailUserDestinationException*

Extends:
InfoServerException

Generalization links

to **Class** InfoServerException

Class *tcs.ain.infoserver.InfoServer*

Version Information 1.0.0

Extends:
Thread

Association links

to **Class** Repository

Class *tcs.ain.infoserver.InfoServerElement*

Base class for all InfoServer elements. Provides mechanism for grouping, ensures all elements are serializable, provides common description functions, etc.

Implements:
Serializable
TCSPersistent

Class *tcs.ain.infoserver.InfoServerEvent*

Top level event type for events with the Info Server.

Extends:
java.util.EventObject

Class *tcs.ain.infoserver.InfoServerException*

Extends:
Exception

Class *tcs.ain.infoserver.JDBCQueryEngine*

A QueryEngine that accesses a JDBC data source. This model copies the ENTIRE data into memory. Other implementations can stream if necessary. This also assumes a SINGLE database query is performed (although that query can be reassigned).

Extends:
QueryEngine

Generalization links

to **Class** QueryEngine

Class *tcs.ain.infoserver.NewEmailQEException*

Extends:
InfoServerException

Generalization links

to **Class** InfoServerException

Class *tcs.ain.infoserver.NewEmailQueryEngine*

This class publishes new Email messages that appear in a mailbox for a user at an IMAP address. This Email information must be provided in the constructor of the class and/or via accessors. It is also possible to this class also act like a data worker. If could register as a Folder Listener and immediately fire events whenever this is notified of new mail. Unfortunately, this would create a lock on the InBox and potentially tie up network resources. This just acts like a listener and only requeries whne asked, provided that the minQueryInterval has not been exceeded. It opens an IMAP connection as READONLY, checks for NEW messages, and closes when done. Because of the potential size of this data, the final implementation should not be cached, but rather stream directly from the IMAP source to the XML Reader !!!!!YOU MUST SUPPLY THE host, accountUser, mailBox, AND password VARIABLES BEFORE USEING!!!!!!!!!!

Extends:
QueryEngine

Generalization links

to **Class** QueryEngine

Class *tcs.ain.infoserver.NotifyChangeOnlyDestination*

Extends:
tcs.ain.infoserver.UserDeliveryDestination

Generalization links

to **Class** UserDeliveryDestination

Class *tcs.ain.infoserver.PageParserQEException*

Extends:
InfoServerException

Generalization links

to **Class** InfoServerException

Class *tcs.ain.infoserver.PageParserQueryEngine*

This query engine uses the TCS page parser to examine an html/xml document. The page parser provides access to the components of a page according to the underlying document structure. This engine allows the user to specify the portions of the page that are to be retrieved. Document structure is according to common HTML tag elements if no targetElements are defined, then all are returned

Extends:
QueryEngine

Generalization links

to **Class** QueryEngine

Class *tcs.ain.infoserver.QNConst*

Class *tcs.ain.infoserver.QNServerResource*

This class is a singleton for a property resource bundle to be used by the Query Net Wizard. The resource bundle contains values that could potentially displayed to users. It also provides a direct, static method for safely getting String values without worrying about MIssingResourceExceptions ras; 2/29/99; modified by S. Levine on 9/9/99

Class *tcs.ain.infoserver.QNWebPagePrinter*

Extends:
tcs.web.WebPagePrinter

Class *tcs.ain.infoserver.QueryEngine*

Queries external sources for information which can be made available to DataDestination object. As required, this provides its data as an XML stream.

Extends:
InfoServerElement

Implements:
IDataSource

Generalization links

to **Class** InfoServerElement

Implementation links

to **Interface** IDataSource

Association links

to **Class** DataFormatter

Documentation:
The default dataformatter to be used. This will be used in a launch on demand (i.e. "MO") situation where want to retrieve data directly from the Datasource.

Class *tcs.ain.infoserver.QueryNetResource*

This class is a singleton for a property resource bundle to be used by the Query Net Wizard. The resource bundle contains values that could potentially displayed to users. It also provides a direct, static method for safely getting String values without worrying about MIssingResourceExceptions ras; 2/29/99; modified by S. Levine on 9/9/99

Class *tcs.ain.infoserver.Repository*

Class for saving and retrieving UserAgents and QueryEngines. All of the elements owned by a UserAgent will be saved along with the object. This repository just used serialization for storage. More robust storage will be required in future versions.

Class *tcs.ain.infoserver.SearchFilter*

Extends:
DataFilter

Implements:
SimpleSaxHandler

Generalization links

to **Class** DataFilter

Class *tcs.ain.infoserver.servlet.QNWebPagePrinter*

Base class for web page printing operations. Provides methods to print the header, banner, etc. Subclasses can provide distinct color / font / banner schemes for individual projects or pages

Extends:
WebPagePrinter

Class *tcs.ain.infoserver.SimpleUserDestination*

Just send the output to STDOUT.

Extends:
UserDeliveryDestination

Generalization links

to **Class** UserDeliveryDestination

Class *tcs.ain.infoserver.SMSUserDestination*

This sends its data via RMI to the Web Gateway's queue

Extends:
UserDeliveryDestination

Generalization links

to **Class** UserDeliveryDestination

Class *tcs.ain.infoserver.SMSUserDestinationException*

Extends:
InfoServerException

Generalization links

to **Class** InfoServerException

Class *tcs.ain.infoserver.TimeElement*

This provides services for identifying time elements used by the CalendarTimer. Can represent minutes, hours, day of week, etc.

Implements:
Serializable
TCSPersistent

Class *tcs.ain.infoserver.Timer*

Used by Worker to control when the worker should do its work. Different types of timers can fire according to time elapsed, # of events, time of day, etc. This timer just fires once at start.

Extends:
Thread

Implements:
Serializable
TCSPersistent

Association links

to **Class** Worker

Class *tcs.ain.infoserver.UserAgent*

UserUser is a collection of information about the User. It also collects all of the InfoServerElements desgnated to this user. The user's workers, dataDestinations, private dataSources, etc. are contained by this user.

Extends:
InfoServerElement

Generalization links

to **Class** InfoServerElement

Class *tcs.ain.infoserver.UserDeliveryDestination*

This implementation uses a DataFormatter for retrieving the info from the DataSource and returning a String representation. Subclasses of this will implement the deliverData() method, which will take the string representation of the data and send it to the end-user in an appropriate manner.

Extends:
InfoServerElement

Implements:
IDataEventListener

Generalization links

to **Class** InfoServerElement

Implementation links

to **Interface** IDataEventListener

Association links

to **Interface** IDataEventListener

associates:
IDataEventListener

to **Class** DataFormatter

Documentation:
Default Data Formatter

Class *tcs.ain.infoserver.WebQueryEngine*

This handles querying a web page. Internally uses a JDNC driver which reads HTML.

Extends:
JDBCQueryEngine

Generalization links

to **Class** JDBCQueryEngine

Class *tcs.ain.infoserver.Worker*

Worker has its own thread and actually initiated actions within the InfoServer environment. Workers are typically defined by/for UserAgents and initiatiate interaction between other InfoServerElements. Base class handles default details of when the worker should do its work by using the Timer class. Timer is a special thread that is used to determine when the Worker should do its work. Subclasses must provide the doWork() method, which is called whenever the thread executes.

Extends:
InfoServerElement

Implements:
TCSPersistent

Generalization links

to **Class** InfoServerElement

Association links

to **Class** Timer

Documentation:
The timer that drives when the worker does work.

Interface Node Detail

Interface *tcs.ain.infoserver.IDataEventListener*

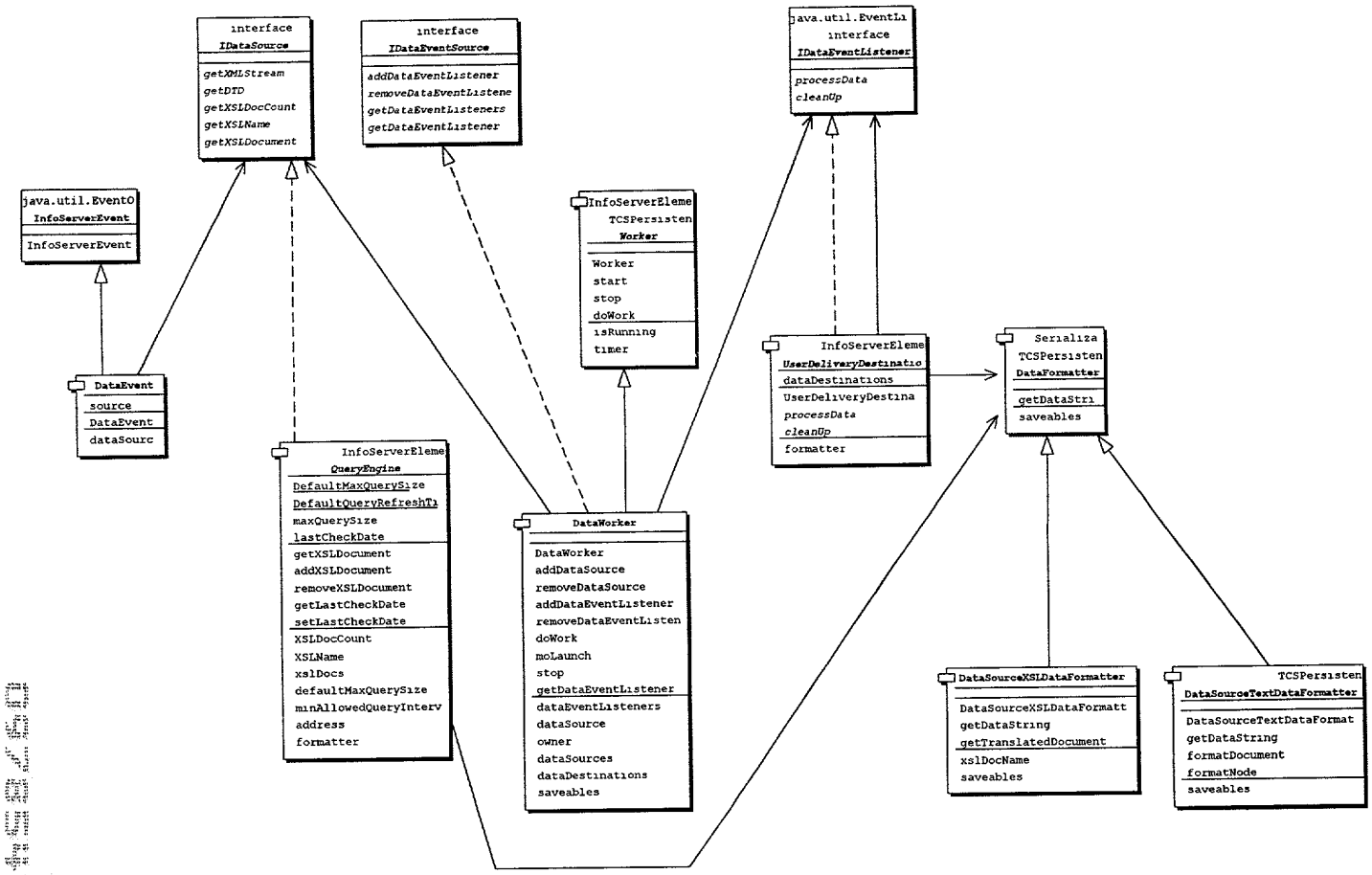
Extends:
java.util.EventListener

Interface *tcs.ain.infoserver.IDataEventSource*

Interface *tcs.ain.infoserver.IDataSource*

This interface defines what to expect from an information supplier. Ideally a data source will provide: - some data - a definition of the data (DTD) - some ways to display the data The last is optional. The DTD is a good idea, but is not yet enforced.

Class Diagram *MoreDetailed*

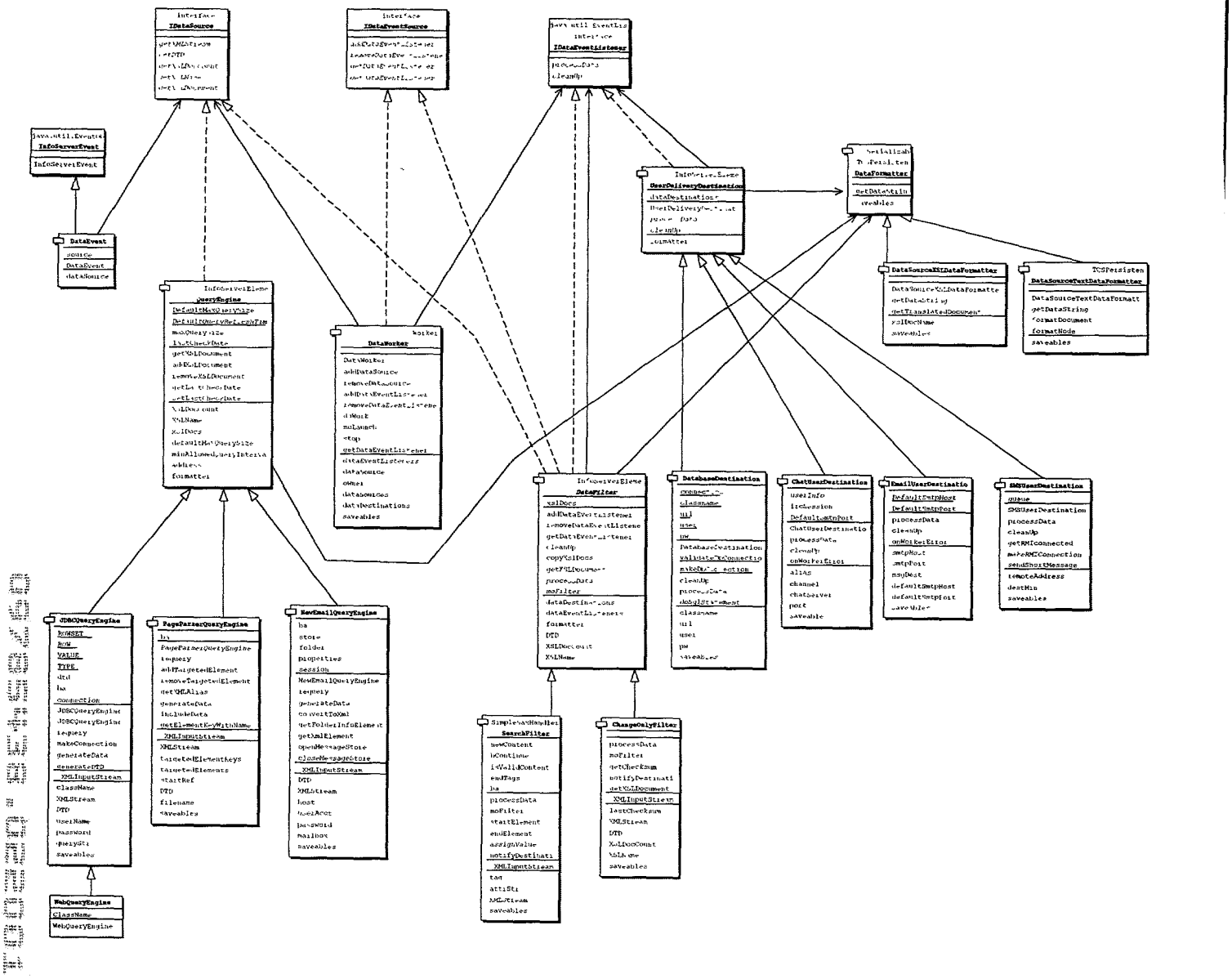


Shortcuts to Elements

of ***ClassDiagram*** *infoserver*

- **Class** tcs.ain.infoserver.DataEvent
- **Class** tcs.ain.infoserver.DataFormatter
- **Class** tcs.ain.infoserver.DataSourceTextDataFormatter
- **Class** tcs.ain.infoserver.DataSourceXSLDataFormatter
- **Class** tcs.ain.infoserver.DataWorker
- **Interface** tcs.ain.infoserver.IDataEventListener
- **Interface** tcs.ain.infoserver.IDataEventSource
- **Interface** tcs.ain.infoserver.IDataSource
- **Class** tcs.ain.infoserver.InfoServerEvent
- **Class** tcs.ain.infoserver.QueryEngine
- **Class** tcs.ain.infoserver.UserDeliveryDestination
- **Class** tcs.ain.infoserver.Worker

Class Diagram *MoreDetailed1*



Shortcuts to Elements

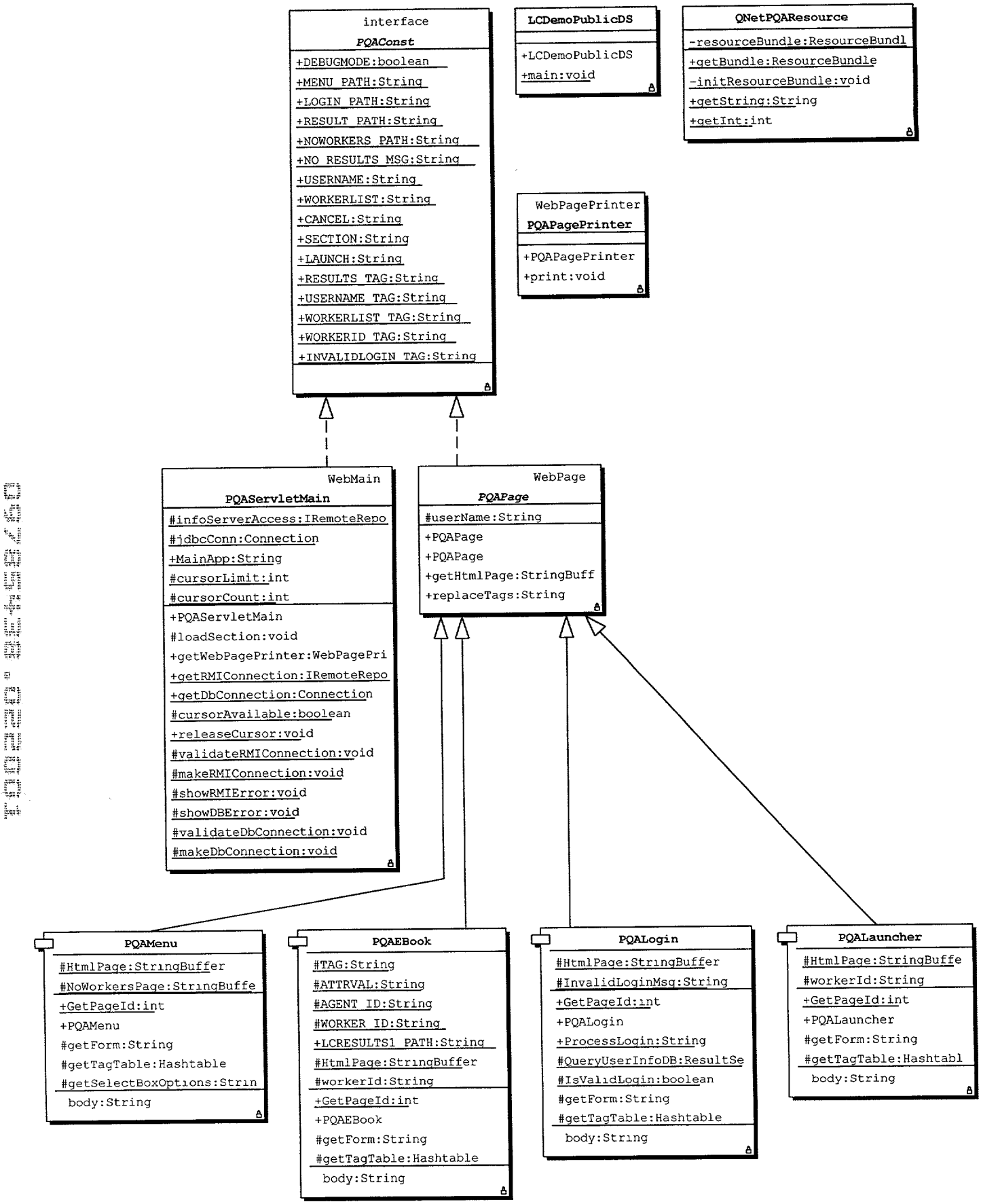
of ***ClassDiagram*** *infoserver*

- **Class** tcs.ain.infoserver.ChangeOnlyFilter
- **Class** tcs.ain.infoserver.ChatUserDestination
- **Class** tcs.ain.infoserver.DatabaseDestination
- **Class** tcs.ain.infoserver.DataEvent
- **Class** tcs.ain.infoserver.DataFilter
- **Class** tcs.ain.infoserver.DataFormatter
- **Class** tcs.ain.infoserver.DataSourceTextDataFormatter
- **Class** tcs.ain.infoserver.DataSourceXSLDataFormatter
- **Class** tcs.ain.infoserver.DataWorker
- **Class** tcs.ain.infoserver.EmailUserDestination
- **Interface** tcs.ain.infoserver.IDataEventListener
- **Interface** tcs.ain.infoserver.IDataEventSource

- **Interface** tcs.ain.infoserver.IDataSource
- **Class** tcs.ain.infoserver.InfoServerEvent
- **Class** tcs.ain.infoserver.JDBCQueryEngine
- **Class** tcs.ain.infoserver.NewEmailQueryEngine
- **Class** tcs.ain.infoserver.PageParserQueryEngine
- **Class** tcs.ain.infoserver.QueryEngine
- **Class** tcs.ain.infoserver.SearchFilter
- **Class** tcs.ain.infoserver.SMSUserDestination
- **Class** tcs.ain.infoserver.UserDeliveryDestination
- **Class** tcs.ain.infoserver.WebQueryEngine



Class Diagram *pga*


interface
PQAConst
+DEBUGMODE:boolean
+MENU_PATH:String
+LOGIN_PATH:String
+RESULT_PATH:String
+NOWORKERS_PATH:String
+NO_RESULTS_MSG:String
+USERNAME:String
+WORKERLIST:String
+CANCEL:String
+SECTION:String
+LAUNCH:String
+RESULTS_TAG:String
+USERNAME_TAG:String
+WORKERLIST_TAG:String
+WORKERID_TAG:String
+INVALIDLOGIN_TAG:String
LCDemoPublicDS
+LCDemoPublicDS
+main:void
QNetPQAResource
-resourceBundle:ResourceBundl
+getBundle:ResourceBundle
-initResourceBundle:void
+getString:String
+getInt:int
WebPagePrinter
PQAPagePrinter
+PQAPagePrinter
+print:void
WebMain
PQAServletMain
#infoServerAccess:IRemoteRepo
#jdbcConn:Connection
+MainApp:String
#cursorLimit:int
#cursorCount:int
+PQAServletMain
#loadSection:void
+getWebPagePrinter:WebPagePri
+getRMIConnection:IRemoteRepo
+getDbConnection:Connection
#cursorAvailable:boolean
+releaseCursor:void
#validateRMIConnection:void
#makeRMIConnection:void
#showRMIError:void
#showDBError:void
#validateDbConnection:void
#makeDbConnection:void
WebPage
PQAPage
#userName:String
+PQAPage
+PQAPage
+getHtmlPage:StringBuff
+replaceTags:String
PQAMenu
#HtmlPage:StringBuffer
#NoWorkersPage:StringBuffe
+GetPageId:int
+PQAMenu
#getForm:String
#getTagTable:Hashtable
#getSelectBoxOptions:Strin
body:String
PQAEBook
#TAG:String
#ATTRVAL:String
#AGENT_ID:String
#WORKER_ID:String
+LCRESULTS1_PATH:String
#HtmlPage:StringBuffer
#workerId:String
+GetPageId:int
+PQAEBook
#getForm:String
#getTagTable:Hashtable
body:String
PQALogin
#HtmlPage:StringBuffer
#InvalidLoginMsg:String
+GetPageId:int
+PQALogin
+ProcessLogin:String
#QueryUserInfoDB:ResultSe
#IsValidLogin:boolean
#getForm:String
#getTagTable:Hashtable
body:String
PQALauncher
#HtmlPage:StringBuffe
#workerId:String
+GetPageId:int
+PQALauncher
#getForm:String
#getTagTable:Hashtabl
body:String

Class Nodes

tcs.ain.infoserver.pqa.LCDemoPublicDS
tcs.ain.infoserver.pqa.PQAEBook
tcs.ain.infoserver.pqa.PQALauncher
tcs.ain.infoserver.pqa.PQALogin
tcs.ain.infoserver.pqa.PQAMenu
tcs.ain.infoserver.pqa.PQAPage
tcs.ain.infoserver.pqa.PQAPagePrinter
tcs.ain.infoserver.pqa.PQAServletMain
tcs.ain.infoserver.pqa.QNetPQAResource

Interface Nodes

tcs.ain.infoserver.pqa.PQAConst

Class Node Detail

Class *tcs.ain.infoserver.pqa.LCDemoPublicDS*

Tests the IMAP Query Engine; query every one minute

Class *tcs.ain.infoserver.pqa.PQAEBook*

Launch a DataWorker for a given Agent, and return results

Extends:
PQAPage

Generalization links

to **Class** PQAPage

Class *tcs.ain.infoserver.pqa.PQALauncher*

Launch a DataWorker for a given Agent, and return results

Extends:
PQAPage

Generalization links

to **Class** PQAPage

Class *tcs.ain.infoserver.pqa.PQALogin*

USER LOGIN PAGE. This prompts user for username/pw and tries and to find (or create) a UserAgent object for them. The UserAgent object is inserted into the user's Session under the name 'userAgent', for retention between screens This will eventually validate against and reference the SMS Internet Suite UserInfo database. Note: New agents are created for authenticated users, and their WebProv values will be assigned to the agent for name, email, min We will need to keep the agent info up-to-date somehow.

Extends:
PQAPage

Generalization links

to **Class** PQAPage

Class *tcs.ain.infoserver.pqa.PQAMenu*

Return a Menu listing of all DataWorkers belonging to a given UserAgent.

Extends:
PQAPage

Generalization links

to **Class** PQAPage

Class *tcs.ain.infoserver.pqa.PQAPage*

Launch a DataWorker for a given Agent, and return results

Extends:
WebPage

Implements:
PQAConst

Implementation links

to **Interface** PQAConst

Class *tcs.ain.infoserver.pqa.PQAPagePrinter*

Base class for web page printing operations. Provides methods to print the header, banner, etc. Subclasses can provide distinct color / font / banner schemes for individual projects or pages

Extends:
WebPagePrinter

Class *tcs.ain.infoserver.pqa.PQAServletMain*

This is the Main page for the QueryNet PQA Servlet. This loads pages according to the received Section variable

Extends:
WebMain

Implements:
PQAConst

Implementation links

to **Interface** PQAConst

Class *tcs.ain.infoserver.pqa.QNetPQAResource*

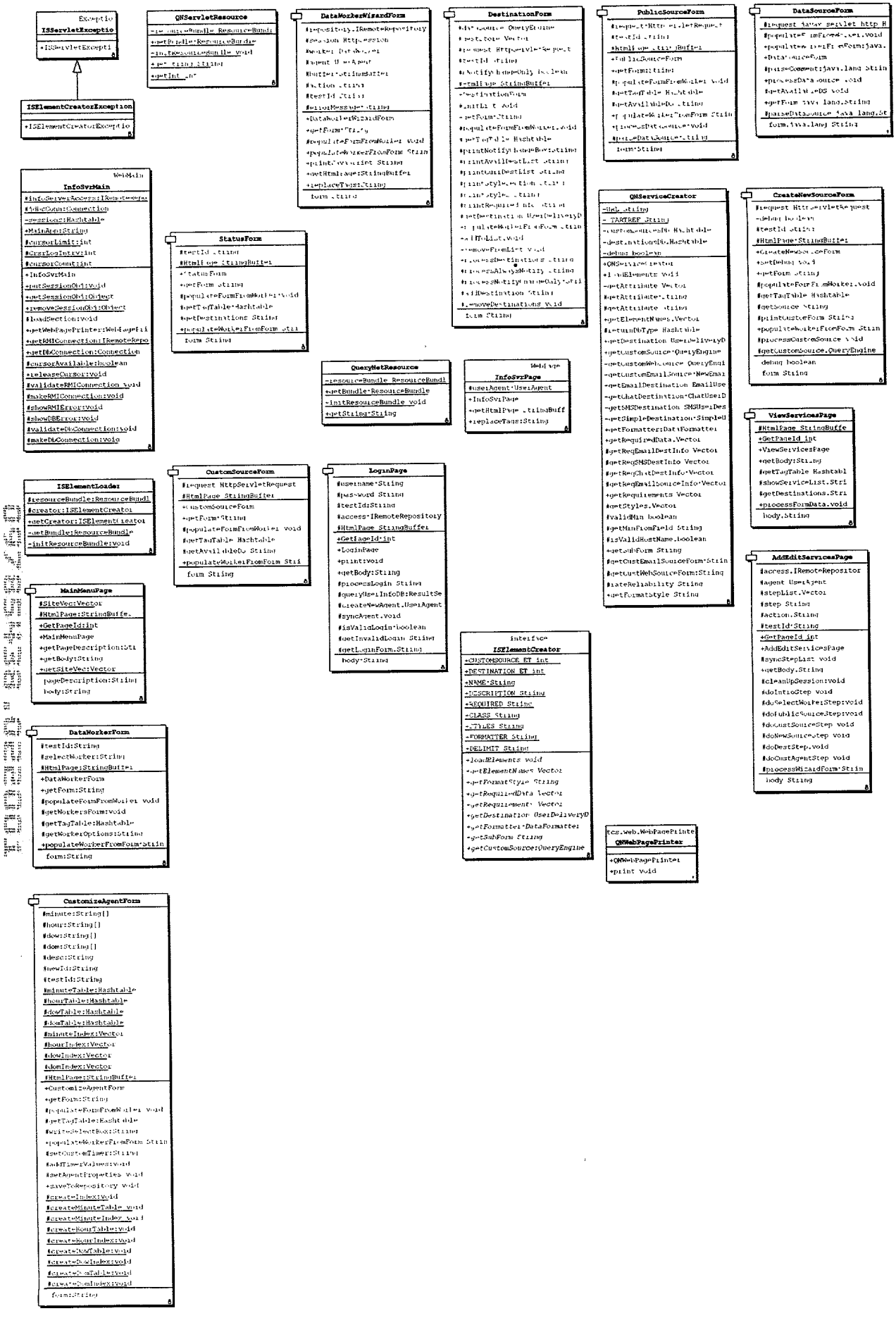
This class is a singleton for a property resource bundle to be used by the QueryNet PQA Servlet. The resource bundle contains values that could potentially be displayed to users. It also provides a direct, static method for safely getting String values without worrying about MIssingResourceExceptions ras; 2/29/99; modified by S. Levine on 5/01/00

Interface Node Detail

Interface *tcs.ain.infoserver.pqa.PQAConst*

The Interface is a contains common constants which apply to the QueryNet PQA Interface. modified by S. Levine on 9/9/99

Class Diagram *servlet*


ISServletExceptio
+ISServletExcepti
ISElementCreatorException
+ISElementCreatorExceptio
QNServletRessource
DataWorkerWizardForm
DestinationForm
PublicSourceForm
DataSourceForm
InfoSvrMain
StatusForm
QNServiceCreator
CreateNewSourceForm
QueryNetResource
InfoSvrPage
ViewServicesPage
ISElementLoader
CustomSourceForm
LoginPage
MainMenuPage
AddEditServicesPage
DataWorkerForm
interface
ISElementCreator
CustomizeAgentForm
QNWebPagePrinter

Class Nodes

tcs.ain.infoserver.servlet.AddEditServicesPage
tcs.ain.infoserver.servlet.CreateNewSourceForm
tcs.ain.infoserver.servlet.CustomizeAgentForm
tcs.ain.infoserver.servlet.CustomSourceForm
tcs.ain.infoserver.servlet.DataSourceForm
tcs.ain.infoserver.servlet.DataWorkerForm
tcs.ain.infoserver.servlet.DataWorkerWizardForm
tcs.ain.infoserver.servlet.DestinationForm
tcs.ain.infoserver.servlet.InfoSvrMain
tcs.ain.infoserver.servlet.InfoSvrPage
tcs.ain.infoserver.servlet.ISElementCreatorException
tcs.ain.infoserver.servlet.ISElementLoader
tcs.ain.infoserver.servlet.ISServletException
tcs.ain.infoserver.servlet.LoginPage
tcs.ain.infoserver.servlet.MainMenuPage
tcs.ain.infoserver.servlet.PublicSourceForm
tcs.ain.infoserver.servlet.QNServiceCreator
tcs.ain.infoserver.servlet.QNServletResource
tcs.ain.infoserver.servlet.QNWebPagePrinter
tcs.ain.infoserver.servlet.QueryNetResource
tcs.ain.infoserver.servlet.StatusForm
tcs.ain.infoserver.servlet.ViewServicesPage

Interface Nodes

tcs.ain.infoserver.servlet.ISElementCreator

Class Node Detail

Class *tcs.ain.infoserver.servlet.AddEditServicesPage*

Extends:
InfoSvrPage

Generalization links

to **Class** InfoSvrPage

Class *tcs.ain.infoserver.servlet.CreateNewSourceForm*

Define the Data Sources that are desired.

Extends:
DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.CustomizeAgentForm*

Define the Data Sources that are desired.

Extends:
DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.CustomSourceForm*

Define the Data Sources that are desired.

Extends:
DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.DataSourceForm*

Extends:
tcs.ain.infoserver.servlet.DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.DataWorkerForm*

Define the Data Sources that are desired.

Extends:
DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.DataWorkerWizardForm*

Base class for elements that will show info about a DataWorker Subclasses will access each component that a DataWorker cares about

Class *tcs.ain.infoserver.servlet.DestinationForm*

Define the Data Sources that are desired.

Extends:
DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.InfoSvrMain*

This is the Main page for the Info Server Web Application. This loads pages according to the received Section variable

Extends:
WebMain

Class *tcs.ain.infoserver.servlet.InfoSvrPage*

Extends:
WebPage

Class *tcs.ain.infoserver.servlet.ISElementCreatorException*

Extends:
ISServletException

Generalization links

to **Class** ISServletException

Class *tcs.ain.infoserver.servlet.ISElementLoader*

Association links

to **Interface** ISElementCreator

Class *tcs.ain.infoserver.servlet.ISServletException*

Extends:
Exception

Class *tcs.ain.infoserver.servlet.LoginPage*

USER LOGIN PAGE. This prompts user for username/pw and tries and to find (or create) a UserAgent object for them. The UserAgent object is inserted into the user's Session under the name 'userAgent', for retention between screens This will eventually validate against and reference the SMS Internet Suite UserInfo database. Note: New agents are created for authenticated users, and their WebProv values will be assigned to the agent for name, email, min We will need to keep the agent info up-to-date somehow.

Extends:
InfoSvrPage

Generalization links

to **Class** InfoSvrPage

Class *tcs.ain.infoserver.servlet.MainMenuPage*

MAIN MENU PAGE. This will provide the main options for the app.

Extends:
InfoSvrPage

Generalization links

to **Class** InfoSvrPage

Class *tcs.ain.infoserver.servlet.PublicSourceForm*

Define the Data Sources that are desired.

Extends:
DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.QNServiceCreator*

S. Levine on 11/1/99

Implements:
ISElementCreator

Implementation links

to **Interface** ISElementCreator

Class *tcs.ain.infoserver.servlet.QNServletResource*

This class is a singleton for a property resource bundle to be used by the Query Net Wizard. The resource bundle contains values that could potentially displayed to users. It also provides a direct, static method for safely getting String values without worrying about MIssingResourceExceptions ras; 2/29/99; modified by S. Levine on 9/9/99

Class *tcs.ain.infoserver.servlet.QNWebPagePrinter*

Extends:
tcs.web.WebPagePrinter

Class *tcs.ain.infoserver.servlet.QueryNetResource*

This class is a singleton for a property resource bundle to be used by the Query Net Wizard. The resource bundle contains values that could potentially displayed to users. It also provides a direct, static method for safely getting String values without worrying about MIssingResourceExceptions ras; 2/29/99; modified by S. Levine on 9/9/99

Class *tcs.ain.infoserver.servlet.StatusForm*

Define the Data Sources that are desired.

Extends:
DataWorkerWizardForm

Generalization links

to **Class** DataWorkerWizardForm

Class *tcs.ain.infoserver.servlet.ViewServicesPage*

Extends:
InfoSvrPage

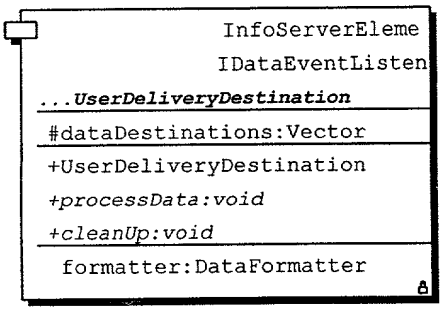
Generalization links

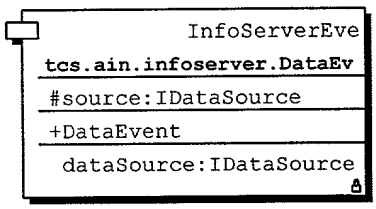
to **Class** InfoSvrPage

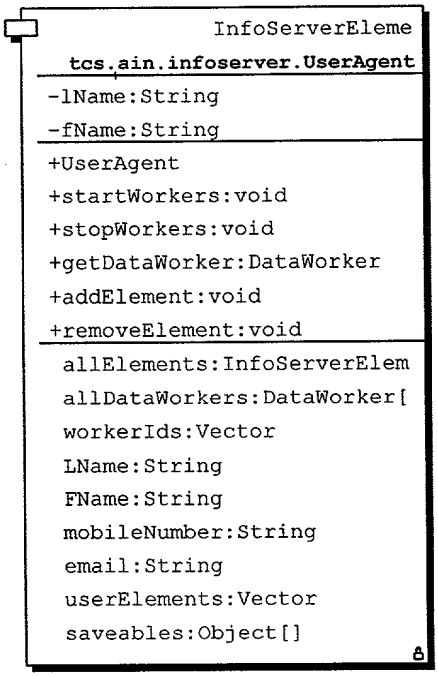
Interface Node Detail

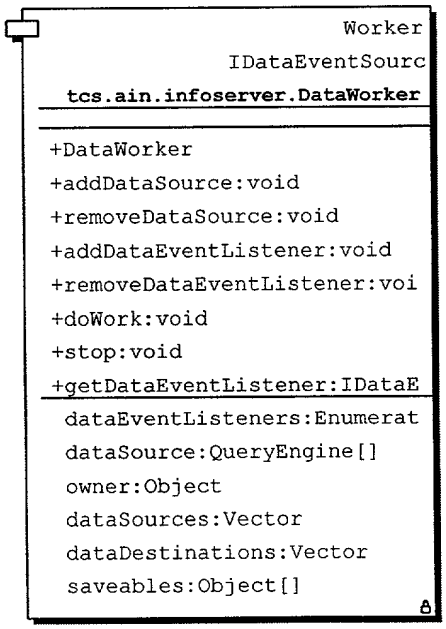
Interface *tcs.ain.infoserver.servlet.ISElementCreator*

Class Diagram *simple1*



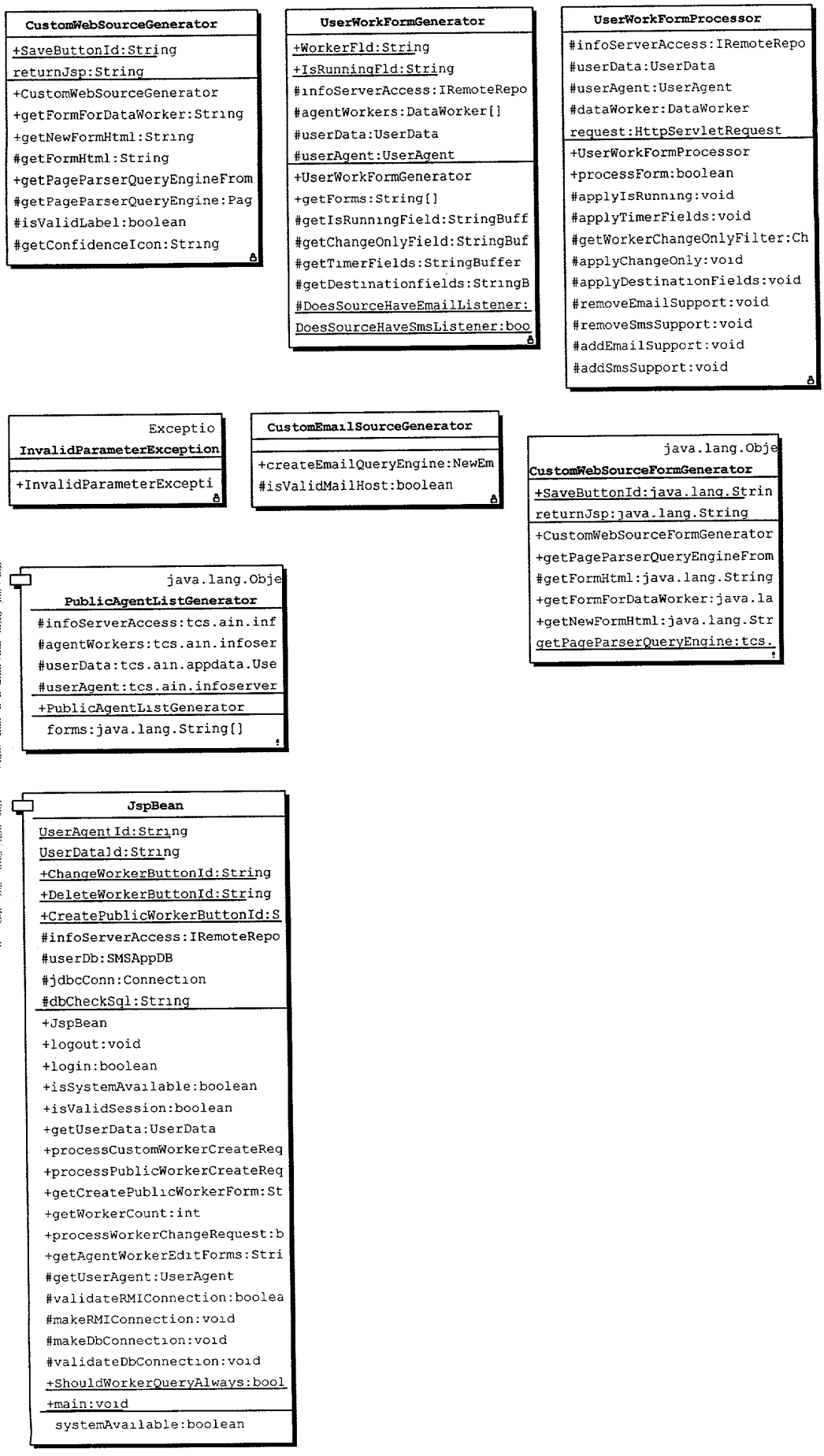






basic elements

Class Diagram *simpleweb*


CustomWebSourceGenerator
+SaveButtonId:String
returnJsp:String
+CustomWebSourceGenerator
+getFormForDataWorker:String
+getNewFormHtml:String
#getFormHtml:String
+getPageParserQueryEngineFrom
#getPageParserQueryEngine:Pag
#isValidLabel:boolean
#getConfidenceIcon:String
UserWorkFormGenerator
+WorkerFld:String
+IsRunningFld:String
#infoServerAccess:IRemoteRepo
#agentWorkers:DataWorker[]
#userData:UserData
#userAgent:UserAgent
+UserWorkFormGenerator
+getForms:String[]
#getIsRunningField:StringBuff
#getChangeOnlyField:StringBuf
#getTimerFields:StringBuffer
#getDestinationfields:StringB
#DoesSourceHaveEmailListener:
DoesSourceHaveSmsListener:boo
UserWorkFormProcessor
#infoServerAccess:IRemoteRepo
#userData:UserData
#userAgent:UserAgent
#dataWorker:DataWorker
request:HttpServletRequest
+UserWorkFormProcessor
+processForm:boolean
#applyIsRunning:void
#applyTimerFields:void
#getWorkerChangeOnlyFilter:Ch
#applyChangeOnly:void
#applyDestinationFields:void
#removeEmailSupport:void
#removeSmsSupport:void
#addEmailSupport:void
#addSmsSupport:void
Exceptio
InvalidParameterException
+InvalidParameterExcepti
CustomEmailSourceGenerator
+createEmailQueryEngine:NewEm
#isValidMailHost:boolean
java.lang.Obje
CustomWebSourceFormGenerator
+SaveButtonId:java.lang.Strin
returnJsp:java.lang.String
+CustomWebSourceFormGenerator
+getPageParserQueryEngineFrom
#getFormHtml:java.lang.String
+getFormForDataWorker:java.la
+getNewFormHtml:java.lang.Str
getPageParserQueryEngine:tcs.
java.lang.Obje
PublicAgentListGenerator
#infoServerAccess:tcs.ain.inf
#agentWorkers:tcs.ain.infoser
#userData:tcs.ain.appdata.Use
#userAgent:tcs.ain.infoserver
+PublicAgentListGenerator
forms:java.lang.String[]
JspBean
UserAgentId:String
UserDataId:String
+ChangeWorkerButtonId:String
+DeleteWorkerButtonId:String
+CreatePublicWorkerButtonId:S
#infoServerAccess:IRemoteRepo
#userDb:SMSAppDB
#jdbcConn:Connection
#dbCheckSql:String
+JspBean
+logout:void
+login:boolean
+isSystemAvailable:boolean
+isValidSession:boolean
+getUserData:UserData
+processCustomWorkerCreateReq
+processPublicWorkerCreateReq
+getCreatePublicWorkerForm:St
+getWorkerCount:int
+processWorkerChangeRequest:b
+getAgentWorkerEditForms:Stri
#getUserAgent:UserAgent
#validateRMIConnection:boolea
#makeRMIConnection:void
#makeDbConnection:void
#validateDbConnection:void
+ShouldWorkerQueryAlways:bool
+main:void
systemAvailable:boolean

Class Nodes

tcs.ain.infoserver.simpleweb.CustomEmailSourceGenerator
tcs.ain.infoserver.simpleweb.CustomWebSourceFormGenerator
tcs.ain.infoserver.simpleweb.CustomWebSourceGenerator
tcs.ain.infoserver.simpleweb.InvalidParameterException
tcs.ain.infoserver.simpleweb.JspBean
tcs.ain.infoserver.simpleweb.PublicAgentListGenerator
tcs.ain.infoserver.simpleweb.UserWorkFormGenerator
tcs.ain.infoserver.simpleweb.UserWorkFormProcessor

Class Node Detail

Class *tcs.ain.infoserver.simpleweb.CustomEmailSourceGenerator*

This class is used to generated a customer Email Source

Class *tcs.ain.infoserver.simpleweb.CustomWebSourceFormGenerator*

Extends:
java.lang.Object

Class *tcs.ain.infoserver.simpleweb.CustomWebSourceGenerator*

This presents all of the Public Data Sources and provides relevant information for any UserAgents that reference the public sources

Class *tcs.ain.infoserver.simpleweb.InvalidParameterException*

This can be thrown whenever a JSP passes parameters to an object and the parameters are missing, invalid, etc.

Extends:
Exception

Class *tcs.ain.infoserver.simpleweb.JspBean*

This provides some methods to simplify access to QNet and also return some dynamic HTML content.

Class *tcs.ain.infoserver.simpleweb.PublicAgentListGenerator*

Extends:
java.lang.Object

Class *tcs.ain.infoserver.simpleweb.UserWorkFormGenerator*

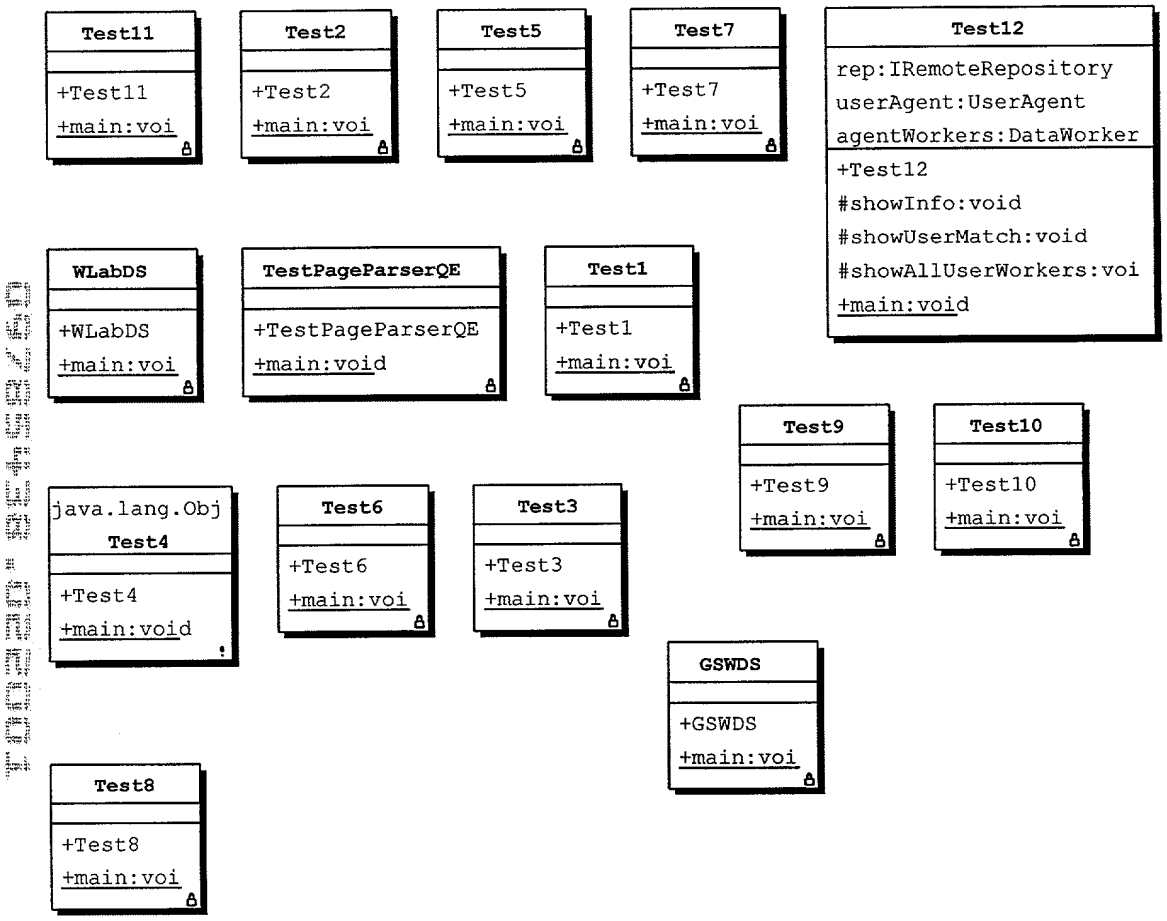
This presents all of the Public Data Sources and provides relevant information for any UserAgents that reference the public sources TO DO: Remove hard-coded English in the form use more constants for field ids

Class *tcs.ain.infoserver.simpleweb.UserWorkFormProcessor*

This guy applies change requests for a worker against the useragent, which is obtained by querying the session

Class Diagram *source*

Class Diagram *tests*



Class Nodes

tcs.ain.infoserver.tests.GSWDS
tcs.ain.infoserver.tests.Test1
tcs.ain.infoserver.tests.Test10
tcs.ain.infoserver.tests.Test11
tcs.ain.infoserver.tests.Test12
tcs.ain.infoserver.tests.Test2
tcs.ain.infoserver.tests.Test3
tcs.ain.infoserver.tests.Test4
tcs.ain.infoserver.tests.Test5
tcs.ain.infoserver.tests.Test6
tcs.ain.infoserver.tests.Test7
tcs.ain.infoserver.tests.Test8
tcs.ain.infoserver.tests.Test9
tcs.ain.infoserver.tests.TestPageParserQE
tcs.ain.infoserver.tests.WLabDS

Class Node Detail

Class *tcs.ain.infoserver.tests.GSWDS*

Tests the IMAP Query Engine; query every one minute

Class *tcs.ain.infoserver.tests.Test1*

This class create a WebQueryEngine, 2 DataWorkers, SimpleUserDestination and ties them all together. The dataworker will execute once, causing the XML from the horoscope web page to be seen on the screen.

Class *tcs.ain.infoserver.tests.Test10*

Adds on to Test3 by saving to the Repository.

Class *tcs.ain.infoserver.tests.Test11*

Tests the IMAP Query Engine; query every one minute

Class *tcs.ain.infoserver.tests.Test12*

This test just shows all of the Data Sources and interleaves userUser info If the user has 'signed up' with this source, then user info is shown.

Class *tcs.ain.infoserver.tests.Test2*

Adds on to Test1 by assigned an XSL doc to the DataSource, and assigning a formatter that uses that XSL doc.

Class *tcs.ain.infoserver.tests.Test3*

Adds on to Test2 by using the CalendarTimer.

Class *tcs.ain.infoserver.tests.Test4*

Extends:
java.lang.Object

Class *tcs.ain.infoserver.tests.Test5*

Loads the objects saved in Test4. Workers will start to auto-run. This is what InfoServer.main does also.

Class *tcs.ain.infoserver.tests.Test6*

Gets the InfoserverAccess object. Creates an UserAgent and saves it to the InfoServerAccess remote object.

Class *tcs.ain.infoserver.tests.Test7*

Gets the InfoserverAccess object. Retrieves the UserAgent saved in Test6.

Class *tcs.ain.infoserver.tests.Test8*

Tests the IMAP Query Engine; query every one minute

Class *tcs.ain.infoserver.tests.Test9*

Single worker, single data source for IMAP, with 2 XSL styles. Two destinations, each using a different style sheet. Dest 1 inserts the Email data into a database for the IVR reader Dest 2 displays the at the MIN.

Class *tcs.ain.infoserver.tests.TestPageParserQE*

This creates a PageParserQueryEngine and has a DataWorker query it

Class *tcs.ain.infoserver.tests.WLabDS*

Tests the IMAP Query Engine; query every one minute

Class Detail

Class *tcs.ain.infoserver.access.InfoServerAccess*

```
public class InfoServerAccess
```

Extends:

java.rmi.server.UnicastRemoteObject

Implements:

tcs.ain.infoserver.access.IRemoteRepository

This class provides access to user agents within the Info Server. May be replaced by a Jini Service in the near future. This provides access to the assigned Repository

Attributes

repository

Constructors

InfoServerAccess(Repository)

Operations

addUserAgent(UserAgent)
getQueryEngine(String)
getQueryEngines()
getUserAgent(String)
getWorkerIdsFromAgent(String)
isConnected()
launchWorker(String, String, Hashtable)
launchWorker(String, String)

Attribute Detail

repository

```
protected Repository repository
```

The repository which we represent.

Constructor Detail

InfoServerAccess

```
public InfoServerAccess(Repository r)
```

Construct with this repository and register the 'InfoServerAccess' name.

Throws:

RemoteException
MalformedURLException

Operation Detail

addUserAgent

```
public void addUserAgent(UserAgent ua)
```

Pass through the add, but also force a save of all agents.

Throws:
InfoServerException
RemoteException

getQueryEngine

```
public QueryEngine getQueryEngine(String id)
```

Direct passthrough for the get

Throws:
RemoteException

getQueryEngines

```
public Hashtable getQueryEngines()
```

Direct passthrough for the get

Throws:
RemoteException

getUserAgent

```
public UserAgent getUserAgent(String id)
```

Direct passthrough for the get

Throws:
RemoteException

getWorkerIdsFromAgent

```
public Vector getWorkerIdsFromAgent(String agentId)
```

Return all id's associated with a specified agent

Throws:
RemoteException

isConnected

```
public boolean isConnected()
```

Used for testing an RMI Connection. Always sends true. If client calls this and no connection has been establishished then they will get an exception

Throws:
ElementNotFoundException
RemoteException

launchWorker

```
public String launchWorker(String agentId, String workerId, Hashtable htParams)
```

Call the specidied workers doWork method, pass in parameters.

Throws:
InfoServerException
RemoteException

launchWorker

```
public String launchWorker(String agentId, String workerId)
```

Call the specidied workers doWork method

Throws:
InfoServerException
RemoteException

Class *tcs.ain.infoserver.access.InfoServerAccess_Skel*

```
public final class InfoServerAccess_Skel
```

Extends:
java.lang.Object

Implements:
java.rmi.server.Skeleton

Attributes

interfaceHash
operations

Constructors

InfoServerAccess_Skel()

Operations

dispatch(java.rmi.Remote, java.rmi.server.RemoteCall, int, long)
getOperations()

Attribute Detail

interfaceHash

```
private static final long interfaceHash
```

operations

```
private static final java.rmi.server.Operation[] operations
```

Constructor Detail

InfoServerAccess_Skel

```
public InfoServerAccess_Skel()
```

Operation Detail

dispatch

```
public void dispatch(java.rmi.Remote, java.rmi.server.RemoteCall, int, long)
```

getOperations

```
public java.rmi.server.Operation[] getOperations()
```

Class *tcs.ain.infoserver.access.InfoServerAccess_Stub*

```
public final class InfoServerAccess_Stub
```

Extends:
java.rmi.server.RemoteStub

Implements:
tcs.ain.infoserver.access.IRemoteRepository
java.rmi.Remote

Attributes

interfaceHash
operations

Constructors

InfoServerAccess_Stub()
InfoServerAccess_Stub(java.rmi.server.RemoteRef)

Operations

addUserAgent(tcs.ain.infoserver.UserAgent)
getQueryEngine(java.lang.String)
getQueryEngines()
getUserAgent(java.lang.String)
getWorkerIdsFromAgent(java.lang.String)
isConnected()
launchWorker(java.lang.String, java.lang.String, java.util.Hashtable)
launchWorker(java.lang.String, java.lang.String)

Attribute Detail

interfaceHash

```
private static final long interfaceHash
```

operations

```
private static final java.rmi.server.Operation[] operations
```

Constructor Detail

InfoServerAccess_Stub

```
public InfoServerAccess_Stub()
```

InfoServerAccess_Stub

```
public InfoServerAccess_Stub(java.rmi.server.RemoteRef)
```

Operation Detail

addUserAgent

```
public void addUserAgent(tcs.ain.infoserver.UserAgent)
```

getQueryEngine

```
public tcs.ain.infoserver.QueryEngine getQueryEngine(java.lang.String)
```

getQueryEngines

```
public java.util.Hashtable getQueryEngines()
```

getUserAgent

```
public tcs.ain.infoserver.UserAgent getUserAgent(java.lang.String)
```

getWorkerIdsFromAgent

```
public java.util.Vector getWorkerIdsFromAgent(java.lang.String)
```

isConnected

```
public boolean isConnected()
```

launchWorker

```
public java.lang.String launchWorker(java.lang.String, java.lang.String, java.util.Hashtable)
```

launchWorker

```
public java.lang.String launchWorker(java.lang.String, java.lang.String)
```

Class *tcs.ain.infoserver.CalendarTimer*

```
public class CalendarTimer
```

Extends:

tcs.ain.infoserver.Timer

Implements:

java.io.Serializable

This Timer will tell the worker to doWork whenever the assigned time criteria have been met. Similar to a cron job, it receives minutes, hours, days of week, and days of month values that define when the work should be performed. Currently this just checks its TimeElements every 60 secs to see if it should fire. Perhaps later we can sleep the maximum amount possible given the assigned values.

Attributes

Always
DefaultSleepTime
domElement
dowElement
executeQuantity
hourElement
minuteElement
sleepTime

Constructors

CalendarTimer()

Operations

getDomElement()
getDowElement()
getExecuteQuantity()
getHourElement()
getMinuteElement()
getSaveables()
getSleepTime()
run()
setDomElement(TimeElement)
setDowElement(TimeElement)
setExecuteQuantity(int)
setHourElement(TimeElement)
setMinuteElement(TimeElement)
setSaveables(Object[])
setSleepTime(long)
timeToFire()

Attribute Detail

Always

```
public static final int Always = -1
```

If a value = this, then impose no limits on it.

DefaultSleepTime

```
protected static long DefaultSleepTime = 60 * 1000
```

The default sleep time to wait before checking if we should fire

domElement

```
protected TimeElement domElement = new TimeElement()
```

dowElement

```
protected TimeElement dowElement = new TimeElement()
```

executeQuantity

```
protected int executeQuantity = Always
```

How many times the timer should fire.

hourElement

```
protected TimeElement hourElement = new TimeElement()
```

minuteElement

```
protected TimeElement minuteElement = new TimeElement()
```

sleepTime

```
protected long sleepTime = DefaultSleepTime
```

how long to sleep before checking to see if it is time to fire an event

Constructor Detail

CalendarTimer

```
public CalendarTimer()
```

Operation Detail

getDomElement

```
public TimeElement getDomElement()
```

tgGet

getDowElement

```
public TimeElement getDowElement()
```

tgGet

getExecuteQuantity

```
public int getExecuteQuantity()
```

tgGet

getHourElement

```
public TimeElement getHourElement()
```

tgGet

getMinuteElement

```
public TimeElement getMinuteElement()
```

tgGet

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

getSleepTime

```
public long getSleepTime()
```

tgGet

run

```
public void run()
```

Check to see if it is time to tell the worker to work. Then sleep and do it again.

setDomElement

```
public void setDomElement(TimeElement domElement)
```

tgGet

setDowElement

```
public void setDowElement(TimeElement dowElement)
```

tgGet

setExecuteQuantity

```
public void setExecuteQuantity(int executeQuantity)
```

tgSet

setHourElement

```
public void setHourElement(TimeElement hourElement)
```

tgGet

setMinuteElement

```
public void setMinuteElement(TimeElement minuteElement)
```

tgGet

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

setSleepTime

```
public void setSleepTime(long sleepTime)
```

tgSet

timeToFire

```
protected boolean timeToFire()
```

Check each timeElement against the current time. If they all have a match, then return true

Class *tcs.ain.infoserver.ChangeOnlyFilter*

```
public class ChangeOnlyFilter
```

Extends:

tcs.ain.infoserver.DataFilter

Just send the output to STDOUT.

Attributes

lastChecksum

Operations

getChecksum(String)
getDTD()

getLastChecksum()
getSaveables()
getXMLStream()
getXSLDocCount()
getXSLDocument(String)
getXSLName(int)
moFilter(DataEvent, Hashtable)
notifyDestinations(DataWorker, IDataSource)
processData(DataEvent)
setLastChecksum(long)
setSaveables(Object[])

Attribute Detail

lastChecksum

```
protected long lastChecksum = 0
```

the checksum code of the page the last time we checked. This origPageIsMaster flag determines whether this checksum always refers the page First loaded

Operation Detail

getChecksum

```
protected long getChecksum(String chkString)
```

Query the target url and return the checksum value for its content& Throw back any IOEXception that we encounter.

Throws:
IOException

getDTD

```
public DTD getDTD()
```

return a DTD describing the XML that can be retreived using the XML Stream.

getLastChecksum

```
public long getLastChecksum()
```

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

getXMLStream

```
public InputStream getXMLStream()
```

Return an input stream by which an XML document can be read. We return an INputStream rather than just a DOM XML document because: · some data may be too large to process as a single unit · this way multiple XML parsing techniques (SAX, DOM, etc) can be used at the discretion of the client. The XML Stream does NOT included DTD info.

Throws:
InfoServerException

getXSLDocCount

```
public int getXSLDocCount()
```

How many XSL documents are provided for presenting the data

getXSLDocument

```
public org.w3c.dom.Document getXSLDocument(String name)
```

The actual XSL Document with this name

getXSLName

```
public String getXSLName(int idx)
```

The descriptive name for XSL document with this index position (0-based)

moFilter

```
public String moFilter(DataEvent evt, Hashtable htParams)
```

Filter and return data form mobile originated query.

notifyDestinations

```
protected void notifyDestinations(DataWorker dw, IDataSource ds)
```

Execute processData() method of all member Destinations

Throws:
InfoServerException

processData

```
public void processData(DataEvent evt)
```

I have new data; Check to see if checksum value for data has changed

setLastChecksum

```
public void setLastChecksum(long lastChecksum)
```

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

Class *tcs.ain.infoserver.ChangeOnlyFilter.XMLInputStream*

```
class XMLInputStream
```

Extends:
java.io.InputStream

Operations

read()

Operation Detail

read

```
public int read()
```

Throws:
IOException

Class *tcs.ain.infoserver.ChatUserDestination*

```
public class ChatUserDestination
```

Extends:
tcs.ain.infoserver.UserDeliveryDestination

Send the output to a user's email account. SMTP-relevant info must first be defined for the class.

Attributes

alias
channel

chatServer
DefaultSmtpPort
ircSession
port
userInfo

Constructors

ChatUserDestination()

Operations

cleanUp()
getAlias()
getChannel()
getChatServer()
getPort()
getSaveables()
onWorkerError(DataWorker, String)
processData(DataEvent)
setAlias(String)
setChannel(String)
setChatServer(String)
setPort(int)
setSaveables(Object[])

Attribute Detail

alias

```
private String alias = null
```

User Nickname to be referred to by chat server

channel

```
private String channel = null
```

Channel(destination) in Chat Server to send message to.

chatServer

```
private String chatServer = null
```

Name of chat server

DefaultSmtpPort

```
private static int DefaultSmtpPort
```

ircSession

```
private IRCClientConnection ircSession = null
```

Used to establish connection to IRC Server.

transient

port

```
private int port
```

Port that chat server is using

userInfo

```
private UserInfo userInfo = null
```

Object for storing user information required for response messages by the IRC Server. This is a requirement of the server and is not used by ChatUserDestination.

transient

Constructor Detail

ChatUserDestination

```
public ChatUserDestination()
```

Constuctor

Parameter doc:

alias
destination
chatServer
port

Operation Detail

cleanUp

```
public void cleanUp()
```

Clean up Session Object

Parameter doc:

evt

getAlias

```
public String getAlias()
```

Get

getChannel

```
public String getChannel()
```

Get

getChatServer

```
public String getChatServer()
```

Get

getPort

```
public int getPort()
```

Get

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

onWorkerError

```
protected void onWorkerError(DataWorker worker, String errorMsg)
```

Stop DataWorker, save error message to log, save worker to agent, and save agent to database

processData

```
public void processData(DataEvent evt)
```

I have new data; Send the Data to the specified IRC Server.

Throws:

ChatUserDestinationException

Parameter doc:
evt

setAlias

```
public void setAlias(String alias)
```

Parameter doc:
alias

setChannel

```
public void setChannel(String channel)
```

Parameter doc:
channel

setChatServer

```
public void setChatServer(String chatServer)
```

Parameter doc:
chatServer

setPort

```
public void setPort(int port)
```

Parameter doc:
port

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

Class *tcs.ain.infoserver.ChatUserDestinationException*

```
public class ChatUserDestinationException
```

Extends:
tcs.ain.infoserver.InfoServerException

Constructors

ChatUserDestinationException(String)

Constructor Detail

ChatUserDestinationException

```
public ChatUserDestinationException(String s)
```

Class *tcs.ain.infoserver.ConditionFilter*

```
public class ConditionFilter
```

Extends:
java.lang.Object

Implements:
tcs.ain.infoserver.IDataEventListener
tcs.ain.infoserver.IDataEventSource

Constructors

ConditionFilter()

Operations

addDataEventListener(tcs.ain.infoserver.IDataEventListener)
getDataEventListener(java.lang.String)
getDataEventListeners()
processData(tcs.ain.infoserver.DataEvent)
removeDataEventListener(tcs.ain.infoserver.IDataEventListener)

Constructor Detail

ConditionFilter

```
public ConditionFilter()
```

Operation Detail

addDataEventListener

```
public void addDataEventListener(tcs.ain.infoserver.IDataEventListener)
```

getDataEventListener

```
public tcs.ain.infoserver.IDataEventListener getDataEventListener(java.lang.String)
```

getDataEventListeners

```
public java.util.Enumeration getDataEventListeners()
```

processData

```
public void processData(tcs.ain.infoserver.DataEvent)
```

removeDataEventListener

```
public void removeDataEventListener(tcs.ain.infoserver.IDataEventListener)
```

Class *tcs.ain.infoserver.DatabaseDestination*

```
public class DatabaseDestination
```

Extends:

tcs.ain.infoserver.UserDeliveryDestination

This performs SQL statements that must be embedded within the received XML data. This assumes that an XSLTemplate assigned to its (DataFormatter)DataSourceXSLDataFormatter will provide XML data in the following format: <STATEMENTS><SQL>xxxxx</SQL></STATEMENT> It will then execute each statement against the schema assigned to it.

Attributes

classname
connection
pw
url
user

Constructors

DatabaseDestination()

makeDbConnection()
processData(DataEvent)
setClassname(String)
setPw(String)
setSaveables(Object[])
setUrl(String)
setUser(String)
validateDbConnection()

Attribute Detail

classname

```
protected static String classname
```

connection

```
protected static Connection connection
```

pw

```
protected static String pw
```

url

```
protected static String url
```

user

```
protected static String user
```

Constructor Detail

DatabaseDestination

```
public DatabaseDestination()
```

Construct and make the connection using the provided data.

Operation Detail

cleanUp

```
public void cleanUp()
```

Clean Up

doSqlStatement

```
protected void doSqlStatement(String sqlStmt)
```

Do this SQL statement; throws any error it encounters

Throws:

SQLException
Exception

getClassname

```
public String getClassname()
```

tgSet

getPw

```
public String getPw()
```

tgSet

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

getUrl

```
public String getUrl()
```

tgSet

getUser

```
public String getUser()
```

tgSet

makeDbConnection

```
protected static void makeDbConnection()
```

Make sure connection is valid. If not, report the error to out and return false

Throws:

SQLException
Exception

processData

```
public void processData(DataEvent evt)
```

Get data from the DataSource, convert to XML, and write to the database each <SQL> statement.

Throws:

DatabaseDestinationException

setClassname

```
public void setClassname(String classname)
```

tgGet

setPw

```
public void setPw(String pw)
```

tgGet

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

setUrl

```
public void setUrl(String url)
```

tgGet

setUser

```
public void setUser(String user)
```

tgGet

validateDbConnection

```
protected static void validateDbConnection()
```

Make sure con is valid. If not, report the error to out and throw the exception

Throws:
SQLException
Exception

Class *tcs.ain.infoserver.DatabaseDestinationException*

```
public class DatabaseDestinationException
```

Extends:
tcs.ain.infoserver.InfoServerException

Constructors
DatabaseDestinationException(String)

Constructor Detail

DatabaseDestinationException
```
public DatabaseDestinationException(String s)
```

Class *tcs.ain.infoserver.DataEvent*

```
public class DataEvent
```

Extends:
tcs.ain.infoserver.InfoServerEvent

Event fired to a DataDestination whenever new data is available. This provides a reference to the Data Source containing the new data. It is up to the receiver to get the data if it wants it.

Attributes
source

Constructors
DataEvent(Object, IDataSource)

Operations
getDataSource()

Attribute Detail

source
```
protected IDataSource source
```

This is the object containing the new/updated data

Constructor Detail

DataEvent
```
public DataEvent(Object caller, IDataSource ds)
```

Operation Detail

getDataSource
```
public IDataSource getDataSource()
```

tgGet

Class *tcs.ain.infoserver.DataFilter*

```
public abstract class DataFilter
```

Extends:

tcs.ain.infoserver.InfoServerElement

Implements:

tcs.ain.infoserver.IDataEventListener
tcs.ain.infoserver.IDataEventSource
tcs.ain.infoserver.IDataSource

Just send the output to STDOUT.

Attributes

dataDestinations
formatter
xslDocs

Operations

addDataEventListener(IDataEventListener)
cleanUp()
copyXslDocs(IDataSource)
getDataDestinations()
getDataEventListener(String)
getDataEventListeners()
getDTD()
getFormatter()
getXSLDocCount()
getXSLDocument(String)
getXSLName(int)
moFilter(DataEvent, Hashtable)
processData(DataEvent)
removeDataEventListener(IDataEventListener)
setDataDestinations(Vector)
setFormatter(DataFormatter)

Attribute Detail

dataDestinations

```
private Vector dataDestinations = new Vector()
```

Associates:

IDataEventListener

formatter

```
protected DataFormatter formatter = new DataFormatter()
```

Default Data Formatter

xslDocs

```
protected Hashtable xslDocs
```

Hashtable of XSL Documents, keyed on the descriptive name

Operation Detail

addDataEventListener

```
public void addDataEventListener(IDataEventListener dd)
```

cleanUp

```
public void cleanUp()
```

Clean Up

copyXslDocs

```
protected void copyXslDocs(IDataSource ds)
```

getDataDestinations

```
public Vector getDataDestinations()
```

getDataEventListener

```
public IDataEventListener getDataEventListener(String id)
```

Return a destination contained by Data Worker whose id matches the string past in as a parm

getDataEventListeners

```
public Enumeration getDataEventListeners()
```

Return a vector of all current Destinations contained by Data Worker

getDTD

```
public DTD getDTD()
```

return a DTD describing the XML that can be retreived using the XML Stream. Note: Not Implemented yet; just returns null.

getFormatter

```
public DataFormatter getFormatter()
```

tgGet

getXSLDocCount

```
public int getXSLDocCount()
```

return the number of XSL docs that have been assigned

getXSLDocument

```
public org.w3c.dom.Document getXSLDocument(String name)
```

return the XSLDocument assoc with this name. Null if none exists.

getXSLName

```
public String getXSLName(int idx)
```

Return the Name associated with the given index position (0 based) in the hashtable. Null if not available

moFilter

```
public abstract String moFilter(DataEvent evt, Hashtable htParams)
```

processData

```
public abstract void processData(DataEvent evt)
```

removeDataEventListener

```
public void removeDataEventListener(IDataEventListener dd)
```

setDataDestinations

```
public void setDataDestinations(Vector dataDestinations)
```

setFormatter

```
public void setFormatter(DataFormatter formatter)
```

tgSet

Class *tcs.ain.infoserver.DataFormatter*

```
public class DataFormatter
```

Implements:

java.io.Serializable
tcs.persist.TCSPersistent

Default implementation just returns the XML data retrieved directly from the data set.

Operations

getDataString(IDataSource)
getSaveables()
setSaveables(Object[])

Operation Detail

getDataString

```
public String getDataString(IDataSource ds)
```

Throws:

InfoServerException

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

Class *tcs.ain.infoserver.DataSourceTextDataFormatter*

```
public class DataSourceTextDataFormatter
```

Extends:

tcs.ain.infoserver.DataFormatter

Implements:

tcs.persist.TCSPersistent

This class returns a format using an XSL Document provided by the data source. The data source can offer multiple styles, each of which is queried by name. This is assigned the name to be used for retrieving the XSL doc from the data source.

Constructors

DataSourceTextDataFormatter()

Operations

formatDocument(Node)
formatNode(Node)
getDataString(IDataSource)
getSaveables()
setSaveables(Object[])

Constructor Detail

DataSourceTextDataFormatter

```
public DataSourceTextDataFormatter()
```

Operation Detail

formatDocument

```
public String formatDocument(Node node)
```

formatNode

```
protected String formatNode(Node node)
```

* Format Each individual node

getDataString

```
public String getDataString(IDataSource ds)
```

Obtain the XSL document from the data source having the name assigned here. If found, apply that style when generating the string. If not found, return the super.getDataString(..)

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

Class *tcs.ain.infoserver.DataSourceXSLDataFormatter*

```
public class DataSourceXSLDataFormatter
```

Extends:

tcs.ain.infoserver.DataFormatter

This class returns a format using an XSL Document provided by the data source. The data source can offer multiple styles, each of which is queried by name. This is assigned the name to be used for retrieving the XSL doc from the data source.

Attributes

xslDocName

Constructors

DataSourceXSLDataFormatter()

Operations

getDataString(IDataSource)
getSaveables()
getTranslatedDocument(IDataSource)
getXslDocName()
setSaveables(Object[])
setXslDocName(String)

Attribute Detail

xslDocName

```
private String xslDocName = new String()
```

The name of the XSL document that we will pull from the data source

Constructor Detail

DataSourceXSLDataFormatter

```
public DataSourceXSLDataFormatter()
```

Operation Detail

getDataString

```
public String getDataString(IDataSource ds)
```

Obtain the XSL document from the data source having the name assigned here. If found, apply that style when generating the string. If not found, return the super.getDataString(..)

Throws:

InfoServerException

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

getTranslatedDocument

```
public Document getTranslatedDocument(IDataSource ds)
```

Return the XSL translated Document object. Return null if no XSL doc assigned.

getXslDocName

```
public String getXslDocName()
```

tgGet

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

setXslDocName

```
public void setXslDocName(String xslDocName)
```

tgSet

Class *tcs.ain.infoserver.DataTranslationFilter*

```
public abstract class DataTranslationFilter
```

Implements:

tcs.ain.infoserver.IDataEventListener
tcs.ain.infoserver.IDataEventSource
tcs.ain.infoserver.IDataSource

This class receives DataEvents, queries the original datasource and assembles its Own Data. It then generates a new DataEvent to its listeners telling them to query it's own data.

Operations

addDataEventListener(IDataEventListener)
getDTD()
getXMLStream()
processData(DataEvent)
removeDataEventListener(IDataEventListener)

Operation Detail

addDataEventListener

```
public void addDataEventListener(IDataEventListener l)
```

getDTD

```
public DTD getDTD()
```

return a DTD describing the XML that can be retreived using the XML Stream.

getXMLStream

```
public InputStream getXMLStream()
```

Return an input stream by which an XML document can be read. We return an INputStream rather than just a DOM XML document because: - some data may be too large to process as a single unit - this way multiple XML parsing techniques (SAX, DOM, etc) can be used at the discretion of the client. The XML Stream does NOT included DTD info.

processData

```
public void processData(DataEvent evt)
```

removeDataEventListener

```
public void removeDataEventListener(IDataEventListener l)
```

Class tcs.ain.infoserver.DataWorker

```
public class DataWorker
```

Extends:

tcs.ain.infoserver.Worker

Implements:

tcs.ain.infoserver.IDataEventSource

A DataWorker tells a DataDestination that it ought to query a Datasource.

Attributes

dataDestinations
dataSources
owner

Constructors

DataWorker()

Operations

addDataEventListener(IDataEventListener)
addDataSource(IDataSource)
doWork()
getDataDestinations()
getDataEventListener(String)
getDataEventListeners()
getDataSource(int)
getDataSources()
getOwner()
getSaveables()
moLaunch(Hashtable)
removeDataEventListener(IDataEventListener)
removeDataSource(IDataSource)
setDataDestinations(Vector)
setDataSources(Vector)
setOwner(Object)
setSaveables(Object[])
stop()

Attribute Detail

dataDestinations

```
private Vector dataDestinations
```

Associates:
IDataEventListener

dataSources

```
private Vector dataSources
```

Associates:
IDataSource

owner

```
private Object owner
```

owner of dataworker

Constructor Detail

DataWorker

```
public DataWorker()
```

Operation Detail

addDataEventListener

```
public void addDataEventListener(IDataEventListener dd)
```

addDataSource

```
public void addDataSource(IDataSource ds)
```

doWork

```
public void doWork()
```

Required method for a worker. Called whenever the timer decides it's time for me to act. Here I generate a new DataEvent and pass to each DataDestination object for each DataSource

getDataDestinations

```
public Vector getDataDestinations()
```

getDataEventListener

```
public IDataEventListener getDataEventListener(String id)
```

Return a destination contained by Data Worker whose id matches the string past in as a parm

getDataEventListeners

```
public Enumeration getDataEventListeners()
```

Return an enum of all current Destinations contained by Data Worker

getDataSource

```
public QueryEngine getDataSource(int index)
```

Return a QueryEngine element located at the specified index of the dataSources Vector

getDataSources

```
public Vector getDataSources()
```

getOwner

```
public Object getOwner()
```

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

moLaunch

```
public String moLaunch(Hashtable htParams)
```

Required method for a worker. Launch a DataWorker on demand

removeDataEventListener

```
public void removeDataEventListener(IDataEventListener dd)
```

removeDataSource

```
public void removeDataSource(IDataSource ds)
```

setDataDestinations

```
public void setDataDestinations(Vector dataDestinations)
```

setDataSources

```
public void setDataSources(Vector dataSources)
```

setOwner

```
public void setOwner(Object owner)
```

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

stop

```
public void stop()
```

Required method for a worker. Called whenever the timer decides it's time for me to act. Here I generate a new DataEvent and pass to each DataDestination object for each DataSource

Class *tcs.ain.infoserver.ElementNotFoundException*

```
public class ElementNotFoundException
```

Extends:

tcs.ain.infoserver.InfoServerException

Constructors

ElementNotFoundException(String)

Constructor Detail

ElementNotFoundException

```
public ElementNotFoundException(String s)
```

Class *tcs.ain.infoserver.EmailUserDestination*

```
public class EmailUserDestination
```

Extends:

tcs.ain.infoserver.UserDeliveryDestination

Send the output to a user's email account. SMTP-relevant info must first be defined for the class.

Attributes

DefaultSmtpHost
DefaultSmtpPort
msgDest
smtpHost
smtpPort

Operations

cleanUp()
getDefaultSmtpHost()
getDefaultSmtpPort()
getMsgDest()
getSaveables()
getSmtpHost()
getSmtpPort()
onWorkerError(DataWorker, String)
processData(DataEvent)
setDefaultSmtpHost(String)
setDefaultSmtpPort(int)
setMsgDest(String)
setSaveables(Object[])
setSmtpHost(String)
setSmtpPort(int)

Attribute Detail

DefaultSmtpHost

```
private static String DefaultSmtpHost
```

DefaultSmtpPort

```
private static int DefaultSmtpPort
```

msgDest

```
private String msgDest
```

smtpHost

```
private String smtpHost
```

smtpPort

```
private int smtpPort
```

Operation Detail

cleanUp

```
public void cleanUp()
```

Clean up

getDefaultSmtpHost

```
public String getDefaultSmtpHost()
```

tgGet

getDefaultSmtpPort

```
public int getDefaultSmtpPort()
```

tgGet

getMsgDest

```
public String getMsgDest()
```

tgGet

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

getSmtpHost

```
public String getSmtpHost()
```

tgGet

getSmtpPort

```
public int getSmtpPort()
```

tgGet

onWorkerError

```
protected void onWorkerError(DataWorker worker, String errorMsg)
```

Stop DataWorker, save error message to log, save worker to agent, and save agent to database

processData

```
public void processData(DataEvent evt)
```

I have new data; Send the data string to the screen

Throws:

EmailUserDestinationException

setDefaultSmtpHost

```
public void setDefaultSmtpHost(String DefaultSmtpHost)
```

tgSet

setDefaultSmtpPort

```
public void setDefaultSmtpPort(int DefaultSmtpPort)
```

tgSet

setMsgDest

```
public void setMsgDest(String msgDest)
```

tgSet

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

setSmtpHost

```
public void setSmtpHost(String smtpHost)
```

tgSet

setSmtpPort

```
public void setSmtpPort(int smtpPort)
```

tgSet

Class *tcs.ain.infoserver.EmailUserDestinationException*

```
public class EmailUserDestinationException
```

Extends:
tcs.ain.infoserver.InfoServerException

Constructors
EmailUserDestinationException(String)

Constructor Detail

EmailUserDestinationException

```
public EmailUserDestinationException(String s)
```

Class *tcs.ain.infoserver.InfoServer*

```
public class InfoServer
```

Extends:
java.lang.Thread

Version Information 1.0.0

Attributes
access
logger
MaintenanceVersion
MajorVersion
MinorVersion
repository

Constructors
InfoServer()

Operations
getRepository()
logMsg(int, String)
main(String[])
run()

Attribute Detail

access

```
protected InfoServerAccess access
```

logger

```
private static Logger logger
```

MaintenanceVersion

```
static int MaintenanceVersion = 0
```

MajorVersion

```
static int MajorVersion = 1
```

MinorVersion

```
static int MinorVersion = 0
```

repository

```
protected static Repository repository
```

Constructor Detail

InfoServer

```
public InfoServer()
```

This creates a repository and loads/runs all userAgents within that repository.

Throws:

InfoServerException
RemoteException
Exception

Operation Detail

getRepository

```
public static Repository getRepository()
```

logMsg

```
public static void logMsg(int level, String content)
```

main

```
public static void main(String[] args)
```

Create the InfoServer and tell it to load/start all user agents

run

```
public void run()
```

Token run() method to keep app running o we can add agents, etc.

Class *tcs.ain.infoserver.InfoServerElement*

```
public class InfoServerElement
```

Implements:

java.io.Serializable
tcs.persist.TCSPersistent

Base class for all InfoServer elements. Provides mechanism for grouping, ensures all elements are serializable, provides common description functions, etc.

Attributes

description
id
logMsg

Operations

getDescription()
getId()

getLogMsg()
getSaveables()
logInfo(String)
setDescription(String)
setId(String)
setLogMsg(String)
setSaveables(Object[])

Attribute Detail

description

```
private String description
```

id

```
private String id
```

Unique identifier for the object

logMsg

```
private String logMsg
```

Stores the last log message

Operation Detail

getDescription

```
public String getDescription()
```

tgGet

getId

```
public String getId()
```

tgGet

getLogMsg

```
public String getLogMsg()
```

tgGet

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent. primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

logInfo

```
public void logInfo(String msg)
```

Common mechanism for logging information within the server.

setDescription

```
public void setDescription(String description)
```

tgSet

setId

```
public void setId(String id)
```

tgSet

setLogMsg

```
public void setLogMsg(String msg)
```

tgSet

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

Class *tcs.ain.infoserver.InfoServerEvent*

```
public class InfoServerEvent
```

Extends:

java.util.EventObject

Top level event type for events with the Info Server.

Constructors

InfoServerEvent(Object)

Constructor Detail

InfoServerEvent

```
public InfoServerEvent(Object o)
```

Class *tcs.ain.infoserver.InfoServerException*

```
public class InfoServerException
```

Extends:

java.lang.Exception

Constructors

InfoServerException(String)

Constructor Detail

InfoServerException

```
public InfoServerException(String s)
```

Class *tcs.ain.infoserver.JDBCQueryEngine*

```
public class JDBCQueryEngine
```

Extends:

tcs.ain.infoserver.QueryEngine

A QueryEngine that accesses a JDBC data source. This model copies the ENTIRE data into memory. Other implementations can stream if necessary. This also assumes a SINGLE database query is performed (although that query can be reassigned).

Attributes

ba
className
connection
dtd
password
queryStr
ROW
ROWSET

TYPE
userName
VALUE

Constructors

JDBCQueryEngine()
JDBCQueryEngine(String, String, String, String)

Operations

generateData()
generateDTD(ResultSetMetaData, TXDocument)
getClassName()
getDTD()
getPassword()
getQueryStr()
getSaveables()
getUserName()
getXMLStream()
makeConnection()
requery()
setQueryStr(String)
setSaveables(Object[])

Attribute Detail

ba

```
protected ByteArrayOutputStream ba
```

This contains data that can be returned in the InputStream.

transient

className

```
protected String className
```

the JDBC clas file name used to create the connection.

connection

```
protected Connection connection
```

transient

dtd

```
protected DTD dtd = null
```

The DTD that describes my data. Obtained through getDTD method

transient

password

```
protected String password
```

queryStr

```
protected String queryStr
```

The SQL query that is to be performed

ROW

```
public static final String ROW = "row"
```

ROWSET

```
public static final String ROWSET = "results"
```

TYPE

```
public static final String TYPE = "type"
```

userName

```
protected String userName
```

VALUE

```
public static final String VALUE = "value"
```

Constructor Detail

JDBCQueryEngine

```
public JDBCQueryEngine()
```

JDBCQueryEngine

```
public JDBCQueryEngine(String classname, String username, String password, String queryStr)
```

Operation Detail

generateData

```
protected void generateData()
```

Generate a temporary DOM structure to hold the data and write it's content into the bytearraystream.

generateDTD

```
private DTD generateDTD(ResultSetMetaData md, TXDocument doc)
```

Generate the DTD from for database

Throws:

java.sql.SQLException

getClassName

```
public String getClassName()
```

tgGet

getDTD

```
public DTD getDTD()
```

return the DTD for my data. Null if the underlying data is not available.

getPassword

```
public String getPassword()
```

tgGet

getQueryStr

```
public String getQueryStr()
```

tgGet

getSaveables

```
public Object[] getSaveables()
```

Return an array of all objects that should be persistent primitive datatypes must be converted to their Object equivalent. These objects will come back in the same order when setSaveables is called.

getUserName

```
public String getUserName()
```

tgGet

getXMLStream

```
public InputStream getXMLStream()
```

return an XML stream for my data

makeConnection

```
protected void makeConnection()
```

Make the jdbc connection. Catch any errors internally and log.

requery

```
protected void requery()
```

Refresh the view of the external data source. By default, if the requery() call is made in an interval < the queryInterval from the lastCheckDate, then nothing will happen.

setQueryStr

```
public void setQueryStr(String q)
```

tgSet

setSaveables

```
public void setSaveables(Object[] oa)
```

receive an array of objects that have been saved. the order will correspond to that specified when getSaveables was called. Users should handle Null values in the array.

Class *tcs.ain.infoserver.JDBCQueryEngine.XMLInputStream*

```
class XMLInputStream
```

Extends:

java.io.InputStream

This handles access to the XML data through an input stream. Each object to request the inputstream gets one of these, which handles sending the data to the client from the bytearray data. Can be used by children at their discretion (e.g., if spooling cached data)

Attributes

lastPos

Operations

read()

Attribute Detail

lastPos

```
int lastPos = -1
```

Operation Detail

read

```
public int read()
```

Throws:

IOException

Class *tcs.ain.infoserver.NewEmailQEException*

```
public class NewEmailQEException
```

Extends:

tcs.ain.infoserver.InfoServerException

Constructors

NewEmailQEException(String)

Constructor Detail

NewEmailQEException

```
public NewEmailQEException(String s)
```

Class *tcs.ain.infoserver.NewEmailQueryEngine*

```
public class NewEmailQueryEngine
```

Extends:

tcs.ain.infoserver.QueryEngine

This class publishes new Email messages that appear in a mailbox for a user at an IMAP address. This Email information must be provided in the constructor of the class and/or via accessors. It is also possible to this class also act like a data worker. If could register as a Folder Listener and immediately fire events whenever this is notified of new mail. Unfortunately, this would create a lock on the InBox and potentially tie up network resources. This just acts like a listener and only requeries whne asked, provided that the minQueryInterval has not been exceeded. It opens an IMAP connection as READONLY, checks for NEW messages, and closes when done. Because of the potential size of this data, the final implementation should not be cached, but rather stream directly from the IMAP source to the XML Reader !!!!!YOU MUST SUPPLY THE host, accountUser, mailBox, AND password VARIABLES BEFORE USEING!!!!!!!!!!

Attributes

ba
folder
host
mailbox
password
properties
session
store
userAcct

Constructors

NewEmailQueryEngine()

Operations

closeMessageStore()
convertToXml(Message, Document)
generateData()
getDTD()
getFolderInfoElement(Folder, Document)
getHost()
getMailbox()
getPassword()
getSaveables()
getUserAcct()
getXmlElement(String, String, Document)
getXMLStream()
openMessageStore()
requery()
setHost(String)
setMailbox(String)
setPassword(String)
setSaveables(Object[])
setUserAcct(String)

Attribute Detail

ba

```
protected ByteArrayOutputStream ba
```

This contains data that can be returned in the InputStream.

transient

folder

```
protected Folder folder = null
```

transient

host

```
private String host
```

mailbox

```
private String mailbox
```

password

```
private String password
```

properties

```
protected Properties properties = null
```

transient

session

```
protected Session session = null
```

transient

store

```
protected Store store = null
```

transient

userAcct

```
private String userAcct
```

Constructor Detail

NewEmailQueryEngine

```
public NewEmailQueryEngine()
```

Construct with all the info reqd to access a mailbox

Operation Detail

closeMessageStore

```
protected void closeMessageStore()
```

Close the message store. Called from generateData() after the data has been queried

Throws:

MessagingException